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UNITED STATES DEPARTMENT OF AGRICULTURE

DEPARTMENT BULLETIN No. 1470

Washington, D. C. ▼ March, 1927

MARKET CLASSES AND GRADES OF DRESSED LAMB AND MUTTON

By

W. C. DAVIS, Assistant Chief Marketing Specialist, and
J. A. BURGESS, Marketing Specialist, Division of Livestock, Meats, and Wool
Bureau of Agricultural Economics

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MARKET CLASSES AND GRADES OF DRESSED LAMB AND MUTTON

By W. C. Davis, *Assistant Chief Marketing Specialist*, and J. A. Burgess, *Marketing Specialist, Division of Livestock, Meats, and Wool, Bureau of Agricultural Economics*

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NEED FOR STANDARDIZATION

Difficulties attending sales of perishable products at long distances are minimized and usually disappear when definite specifications, which are thoroughly understood by all parties to a transaction, are used. Only in this way can true market values be determined without personal inspection by both buyer and seller. The adoption therefore of uniform standard class and grade descriptions or specifications results in greater ease in buying and selling and reduces marketing costs.

To be of value from a practical standpoint any scheme of classifying and grading should fit the needs of the interests which it is designed to serve. It, therefore, involves an intimate study of long-time trading practices, whereby workable features may be strengthened and differences between markets eliminated and practices unified. In this way any commodity may be classified according to a certain standard. It also involves the adoption of a set of terms, the meaning of which is definitely fixed and generally understood. Descriptions of grades must be specific, concise, and easily understood. Unless these requirements are met, no set of grade descriptions can materially increase efficiency in the marketing of any commodity.

Specifications for livestock and meat grades must be based on fundamental factors inherent in the animal or carcass, which are not subject to change on account of trade preferences, seasonal conditions or any other unstable or fluctuating factor. The specifications or grade descriptions for meats prepared in the Bureau of Agricultural Economics and recommended to purchasing departments of Federal and State institutions and commercial interests have been in practical use for approximately three years. Previous to this, since 1917, the grades had been in constant use in the bureau's market-reporting work. During a period of eight years, the grades have become generally known by all branches of the trade and have been put to every practical test in the large markets of the country.

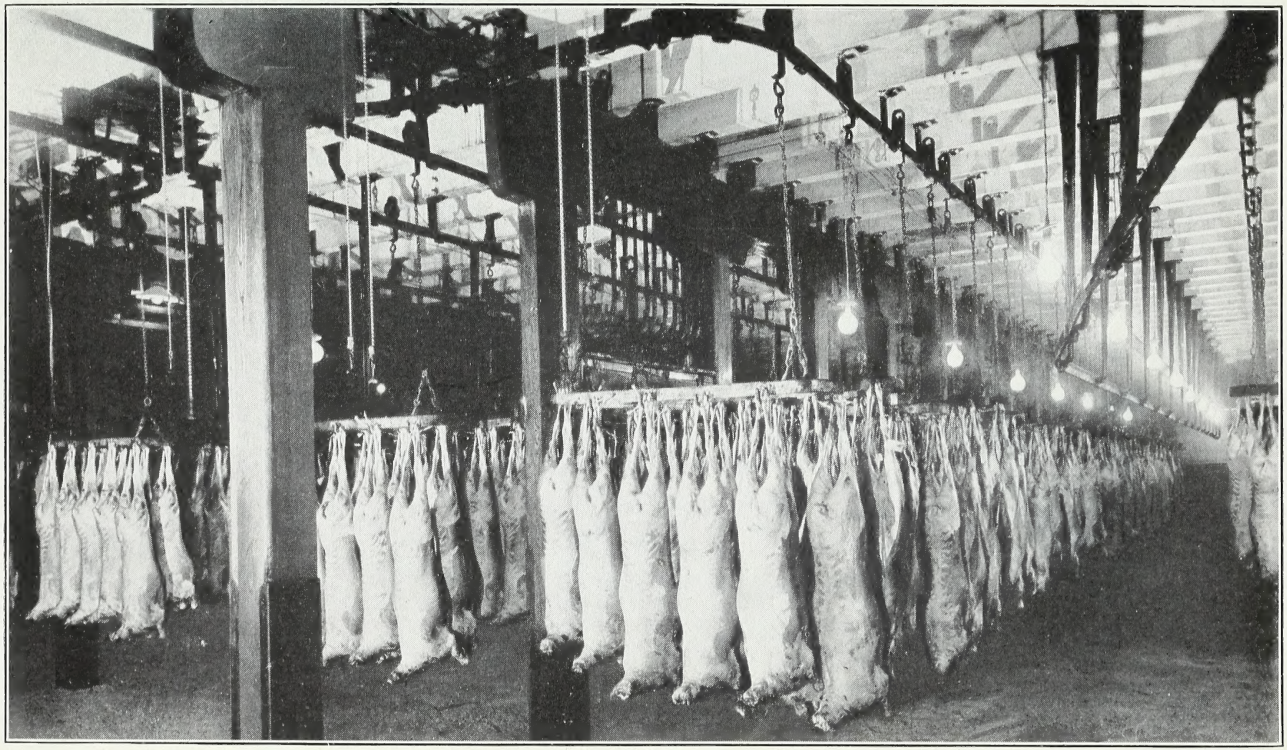
The descriptions of grades of lamb and mutton appearing in this bulletin are, therefore, not new to the meat industry. To a large extent they represent the centralization and unification of ideas and methods of a large majority of representative slaughterers and wholesale and retail meat dealers throughout the United States. The application of the grades to the needs of the industry was thus made comparatively easy and it is hoped that their general adoption by all branches of the trade will not be long delayed. Already buying and selling in distant markets have been simplified to a marked degree.

DEFINITION OF LAMB AND MUTTON

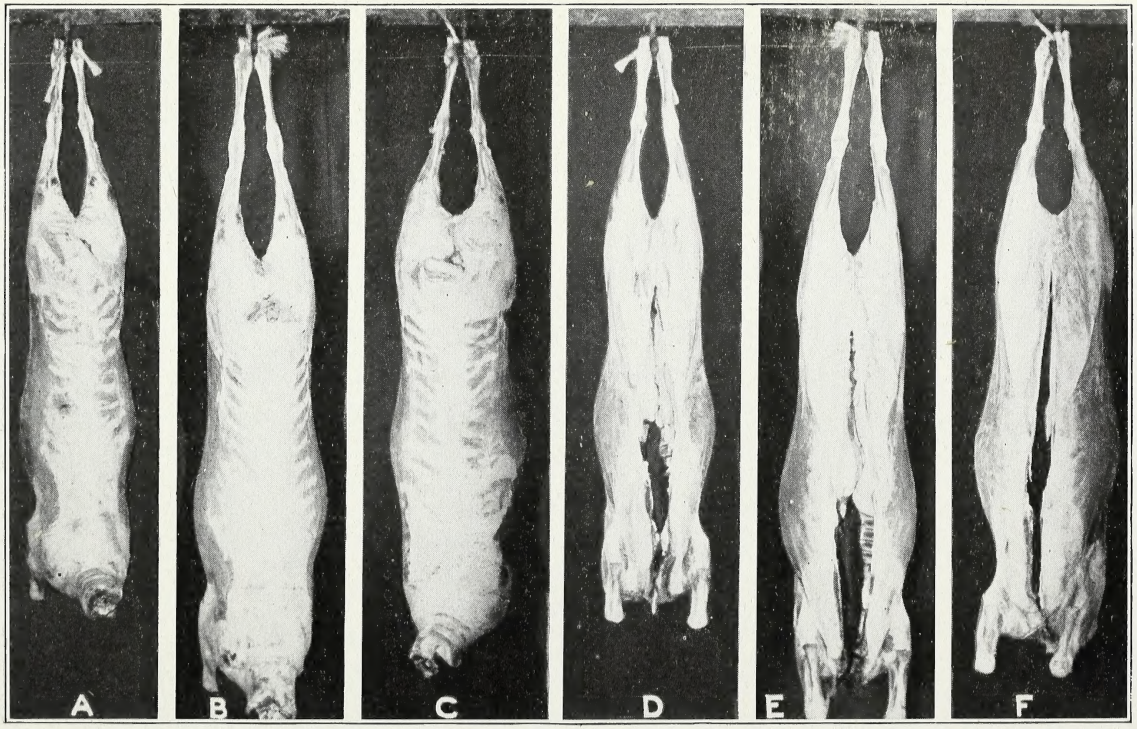
"When does a lamb become a yearling sheep? When does a yearling sheep become a mature sheep?" are questions often asked by the layman. Generally there are features peculiar to each of these groups by which it is not difficult to determine to which a given carcass belongs. These differences are the result of changes which occur at different stages of maturity in the live animal. Age produces marked changes in the character, color, and consistency of the flesh and bones and to a lesser extent in the consistency and character of the exterior and interior fats.

But there are periods in live animals when lambs are approaching the yearling sheep stage and when yearling sheep are approaching the mature sheep stage, when the blending of the several features is so gradual that exact determination of the group to which their carcasses belong is exceedingly difficult. At this period, the foreleg joints of many carcasses do not show what is known as a lamb joint, neither do they show the usual yearling mutton joint.

Hardness and color of the bones are good indications of the age in all cases. Hardness of bones in carcasses can best be determined by observing the color of the ribs in the chest cavity and the bones in the shanks and in the break joint. Redness in bones indicates youth and whiteness in bones indicates age, and, to some extent, an undernourished condition. These things considered in connection with the conformation of the carcass and color and texture of the flesh in most cases indicate whether it is lamb, yearling mutton, or mature mutton. From the standpoint of total slaughter and consumption at present lambs constitute numerically approximately 80 per cent, yearling sheep 10 per cent, and mature sheep 10 per cent.

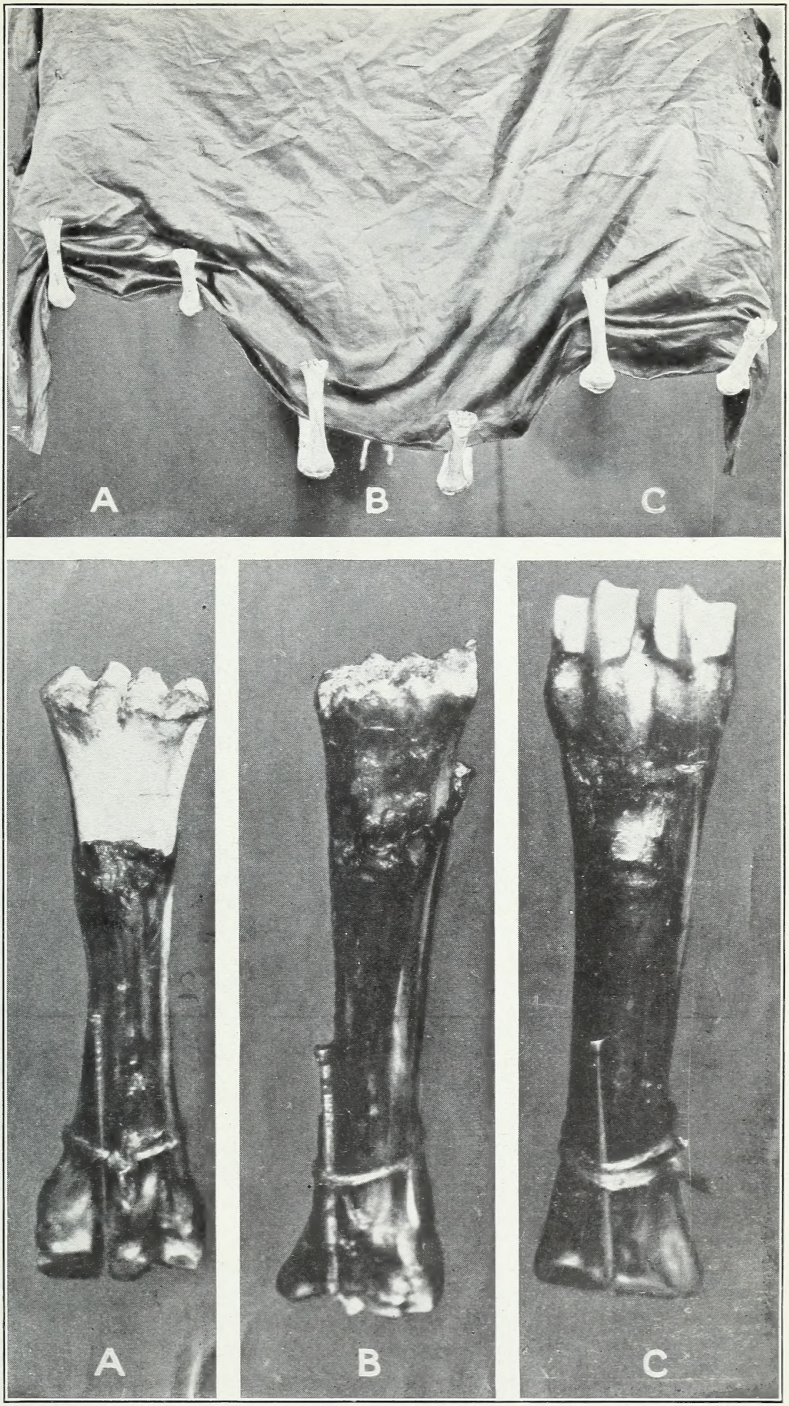


LAMB AND MUTTON CARCASSES IN MODERN COOLER



LAMB AND MUTTON CARCASSES

A, D, Lamb carcasses; B, E, yearling mutton carcasses; C, F, mature mutton carcasses



"BREAK" AND "ROUND" JOINTS

A, Lamb "break" joint; B, yearling mutton "break" joint; C, mature mutton "round" joint

LAMB

Lamb is a general term which refers to the flesh of young animals of the ovine species of both sexes. The age at which the change from lamb to yearling sheep takes place in the live animals is approximately 12 to 14 months.

Lamb carcasses as a group are distinguished from mutton carcasses by their smaller and softer bones, lighter-colored flesh, softer and whiter external and internal fats, smaller size of carcasses and cuts, and by the break joint of the forelegs. Of these the latter is most prominent. Lamb foreleg joints break in four well-defined ridges, resembling somewhat the teeth of a saw. These ridges are smooth, moist, and red with blood. The bones of the hind legs at this period also are streaked with blood. As lambs approach the yearling sheep stage the bones become harder and whiter and the break joints, although retaining some of the saw tooth effect, are relatively harder and more porous, and there is only a slight indication of blood at the joint. Bones in lamb carcasses are easily cut or sawed. In the better grades the flesh is fine-grained, smooth and velvety, and light pink in color.

The outer covering of fat is smooth, relatively thin and evenly distributed, and has a creamy or slightly pinkish color. Interior fats are of like quality and vary in quantity and evenness of distribution according to the grade. All fats lack brittleness and possess in a greater or less degree the softness and sheen characteristic of milk fat. This feature, produced by a milk diet, is especially pronounced in carcasses of hothouse lambs and to a lesser extent in spring lambs, most of which are marketed at or before weaning time and usually have not had access to feeds other than milk.

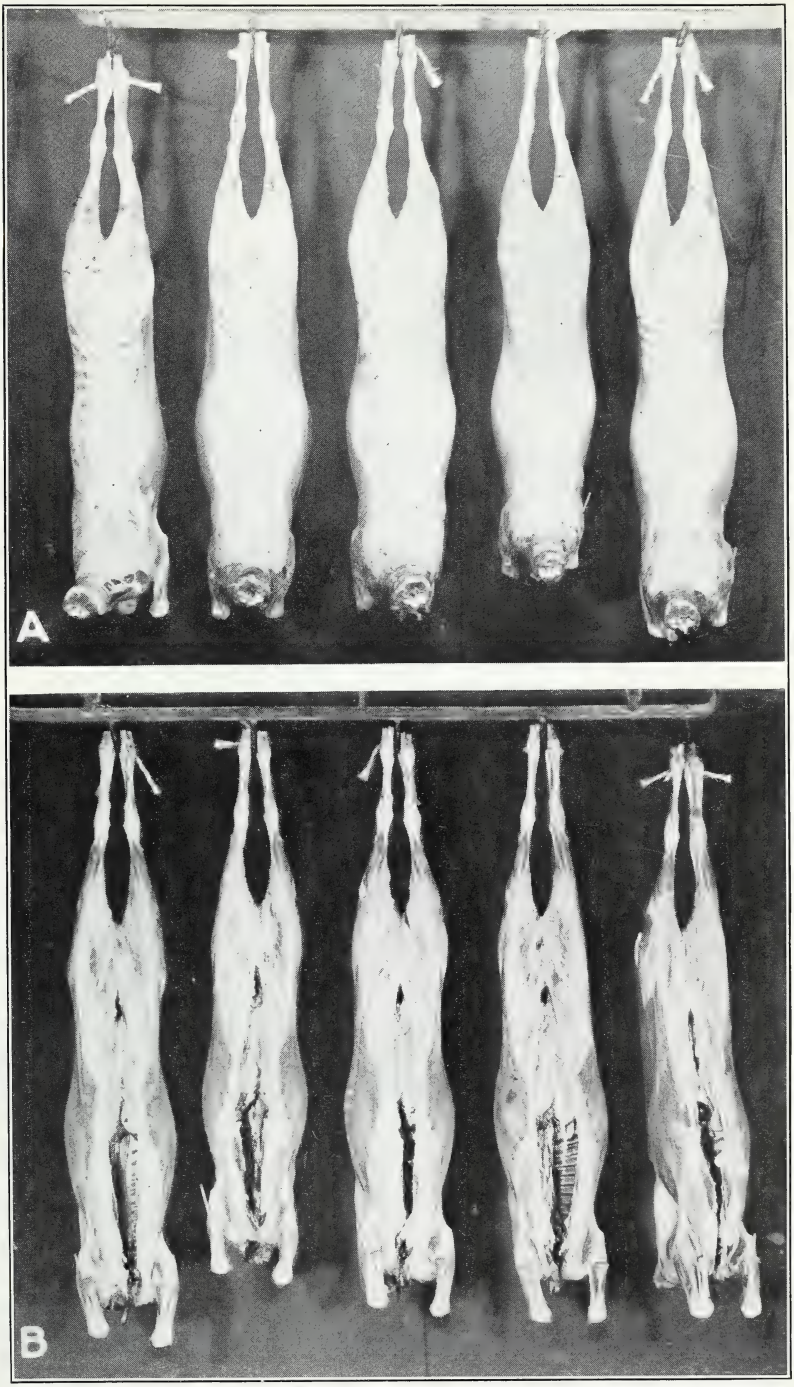
Most lamb carcasses, except spring lamb which is marketed as such principally during April, May, and June, and hothouse lamb which is marketed during late winter and early spring, weigh between 35 and 45 pounds with the maximum range from 28 to 55 pounds.

SPRING LAMB

The term "spring lamb" refers to meat from young lambs of weaning age or younger and which are usually sold for slaughter at ages ranging form 3 to 5 months. The flesh is uniformly tender and a shade lighter than that of more mature lambs. On account of the character of the feed, which is almost exclusively milk, such carcasses are referred to in some sections as "milk lambs." The bulk of spring-lamb carcasses weigh between 30 and 35 pounds with a limited number of carcasses weighing down to 20 pounds or below, and some up to 40 pounds.

HOTHOUSE LAMB

The term "hothouse lamb" refers to carcasses from animals which are produced generally under artificial rather than natural climatic conditions. The flesh of such carcasses is considered a delicacy and they are marketed during the late winter and early spring months, principally from January to March. They are produced under the most favorable conditions and represent unusual effort, care. and at-



SPRING LAMB CARCASSES

A, spring lamb carcasses, back view; B, spring lamb carcasses, stomach view

HOT HOUSE LAMB CARCASSES

A, hot house lamb carcasses; B, hot house lamb carcasses, wrapped for shipping

tention on the part of producers. Aside from a few of the larger cities, hothouse lamb is not a factor in the lamb trade. Such lambs are generally marketed with the pelt on. Carcasses usually weigh from 15 to 30 pounds. The favorable conditions under which such lambs are produced are reflected in the uniform finish and quality of the carcasses. All grades are seldom found on any market, the bulk being Choice or No. 1, and Good or No. 2.

MUTTON

Mutton carcasses are from animals of the ovine species which have passed the lamb stage. Breed, sex, feed, and handling are responsible for variations in the age limits at which maturity is reached. These variations involve months only, and at most will not show a variance greater than 6 months. It is, therefore, generally understood that lambs cease to be such from 12 to 14 months of age and that yearling sheep become sheep when around 20 to 24 months old. The minimum age of sheep which produce mutton would therefore correspond closely to the maximum age limits of lambs.

In any event there are outstanding features peculiar to each group which are largely the result of age and these features are really the basis of the three groups—lamb, yearling mutton, and mature mutton. These features are rather definitely fixed and do not vary greatly in different carcasses of the same group. There are also some variations in maturity between wethers and ewes. Males are somewhat slower to mature than females, as evidenced by the relative hardness of the bones in animals of the two sexes of the same age. Allowances in these respects should therefore be made for conditions imposed by nature. In the process of breeding and giving birth the conformation of the ewe is changed to some extent. These changes do not appear in lamb carcasses and only on rare occasions in yearling mutton carcasses.

YEARLING MUTTON

Yearling mutton carcasses are from young sheep usually ranging from 12 to approximately 20 months old. Sometimes, however, the animal may be somewhat older.

Such carcasses are distinguished from lamb carcasses by harder and whiter bones, darker and somewhat coarser flesh, firmer and somewhat thicker exterior fat, and more liberal quantities of interior fats grade for grade. Other prominent features which distinguish yearling mutton from lamb carcasses are wider and larger abdominal cavity and longer body and legs. The break joint of the foreleg is always a positive means of identification. This joint usually breaks in ridges similar in shape to a lamb joint, but the surface is rough, porous, dry and lacks redness. A fair percentage of yearling mutton (carcasses) is found on the markets which do not show the rough saw-tooth effect when the joints are broken, but have instead a jagged and rough surface. This is because of more advanced age and becomes more apparent as the mature mutton stage is approached. The break joint must be present, however, and if the leg fails to break at this point the carcass is mature mutton.

The flesh of yearling mutton is dark pink inclining to a light red in color, comparatively tender, but lacking somewhat in juiciness.

Exterior and interior fats are firm, somewhat brittle, and white to slightly creamy in color. They lack the resiliency and milky tinge of fat which is so pronounced in most carcasses of lamb, yet do not possess the same degree of hardness and brittleness of the fat usually found in mature mutton carcasses.

MATURE MUTTON

Mature mutton.—In mature mutton, the ribs show a much more pronounced spring or bow than is generally the case in either lamb or yearling mutton carcasses. This gives the sides a distended or barrellike appearance, particularly in the case of ewes, whereas those of lamb and yearling mutton are relatively straight and are more compact, and the general outline is more uniform and even.

A feature which is peculiar to mature mutton carcasses is the appearance of the ankle joint of the forelegs. In mature mutton forelegs the saw-tooth effect is absent. When a lamb has passed through the yearling stage and has become a sheep, the cartilage becomes ossified or hardened and the knuckle no longer breaks off the end of the bone. The separation of the foot from the foreleg is therefore made at the ankle joint. Thereafter the knuckle normally forms the extreme end of the foreleg and presents a hard, smooth, white, shiny surface with two prominent ridges.

Another distinguishing feature is the color of the flesh. The color of mutton ranges from light to dark red, compared with medium pink to light red in yearling mutton and light to dark pink in lamb. This also applies to the thin strips of lean meat extending over the exterior of the back and sides and somewhat broader covering of lean over the breast. The quantity of lean and its even distribution over the carcass varies according to the grade of the carcass but it is always visible to a greater or less extent under the fell.[1]

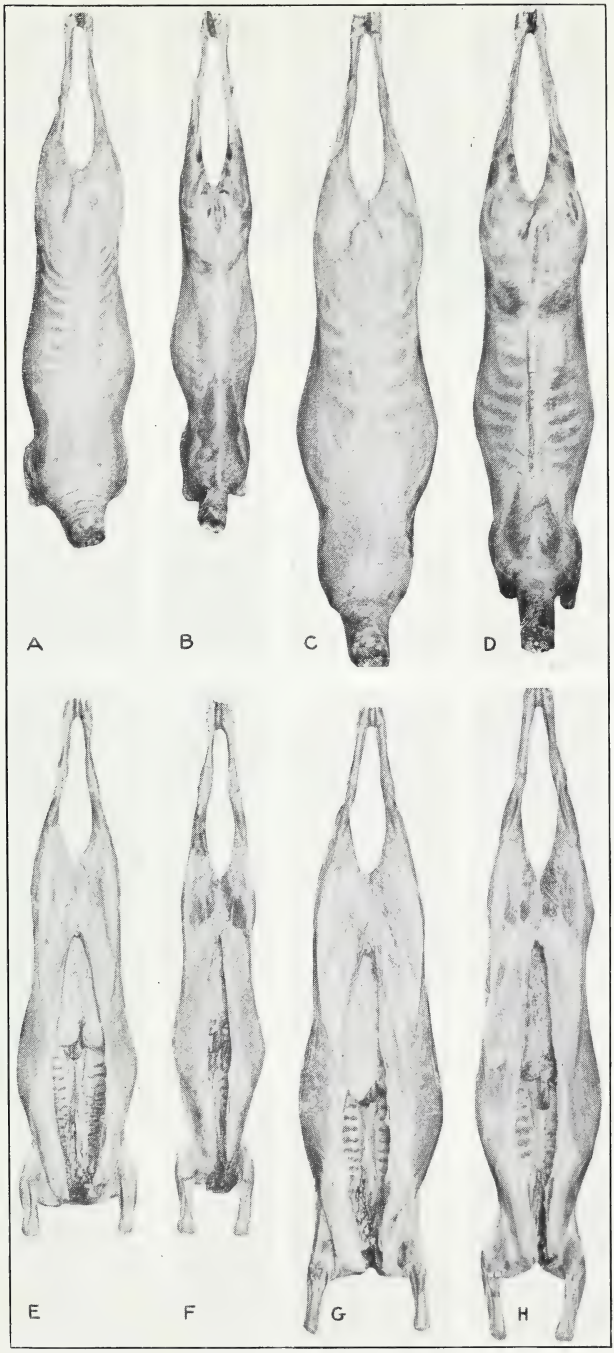
Wether mutton is derived from males of the ovine species which were castrated early in life before any marked sexual characteristics had developed.

Wether mutton carcasses are distinguished from ewe mutton carcasses by the presence of cod fat, generally regular and more even conformation, a somewhat higher percentage of lean flesh to bone, less fat, and relatively smaller fore quarters in proportion to hind quarters. Both exterior and interior fats are generally less wasty and more evenly distributed. As a result of changes in sheep production which have occurred during the last quarter century relatively few weather sheep arrive at market for slaughter and therefore comparatively little wether mutton is offered on consuming markets. The larger percentage of Choice and Prime grade mutton, however, is derived from wethers.

Ewe mutton is derived from females of the ovine species which were at least 20 months old at time of slaughter. In most instances the animal has lambed one or more times.

Carcasses of ewe mutton have relatively larger abdominal cavities than wethers, larger bungs and pelvic arches, and smaller necks and shanks. The presence in ewe-mutton carcasses of parts of the udder is also a distinguishing feature. The bones are generally harder

[1] The fell is a thin, tough membrane covering the carcass immediately under the pelt. It should be removed before cooking.



LAMB AND MUTTON CARCASSES

A, E, choice grade lamb; B, F, cull grade lamb; C, G, choice grade mature mutton; D, H, cull grade mature mutton

than those in wether mutton carcasses from sheep of the same age. Only a small percentage of ewe mutton carcasses possess the degrees of conformation required in the higher grades.

Buck mutton is derived from mature males of the ovine species which were uncastrated at time of slaughter. Such carcasses are usually from animals 2 years old and over.

The principal characteristics of buck-mutton carcasses are short, thick necks, thick shoulders and breasts, relatively small hind quarters in proportion to forequarters, large bones, coarse, dark-colored flesh, and thick, oily "skins" or fell. Carcasses of well-finished bucks usually have a thick, wasty covering of fat, but have only moderate quantities of interior fats.

STYLE OF DRESSING

Prior to the summer of 1918, various styles of dressing sheep and lambs were in effect. In the bulk, the caul [2] was spread over the hind legs and kidneys. Spread sticks or "back sets" were used to spread the carcass. In a large percentage of carcasses the pluck [3] was not removed. On July 5, 1918, at the suggestion of the Bureau of Markets, now the Bureau of Agricultural Economics, the United States Food Administration issued regulations requiring all lamb, mutton, and goat carcasses to be plain or round dressed, with caul and pluck removed from the carcass at time of slaughter, and prohibited the use of spread sticks, during the period of the World War. The economical features of dressing plain or round style appealed to all classes of the trade, and although the restrictions were canceled after the signing of the armistice, the plain or round dressed style has been generally adopted by all slaughterers. Carcasses have the pelt, head, and feet removed, and forelegs folded at the knee, and are opened from the cod or bag to the throat. Under the old or "caul dressed" style the carcasses were split only from the cod or bag to the breast bone.

BASIS FOR GRADING LAMB AND MUTTON

The act of grading naturally follows that of classifying and is a continuation of the same analytical process. In the present case, the whole commodity has been divided into two major groups—lamb and mutton, the latter being further subdivided into yearling mutton and mature mutton. These groups are frequently called classes but are really age selections. The divisions are based on the age of the animals which produced the meat.

Grading is a further subdivision in which groupings are made within rather narrow and well-defined limits. In determining these groups, conformation, finish, and quality are the prime factors, and each group should be highly uniform in all details.

In most respects, the grading of lamb and mutton is not unlike the grading of beef, which was described in Department Bulletin No. 1246, Market Classes and Grades of Dressed Beef. Practically

[2] Caul or omentum is a thin membrane dotted with small globules of fat. It supports the stomach and is attached to the inner walls of the carcass. When "caul dressing" was in vogue the caul was removed at time of slaughter and spread over the hind legs and loins.

[3] Pluck consists of the heart, liver, lungs, and trachea or windpipe.

the same basic principles are involved. Generally speaking, there has been more uniformity in classifying and grading carcasses of the ovine species than is practiced in the beef industry. This has been due chiefly to the limited number of slaughterers engaged in the business, closer cooperation in this respect between markets, and greater natural uniformity within each grade.

Weight has a great influence on price but it is not a grade factor. On the contrary all kinds of dressed meat including lamb and mutton are graded on features which are inherent in the carcass. Such a system has proven to be the only kind which can be used with any degree of uniformity. The grade factors used in this bulletin are conformation, finish, and quality. When these three factors are used as the basis for grades there are no variations between seasons or between different sections of the country.

Because of extremes of conformation, finish, and quality and resultant wide variations in value of the two groups, no scheme of grading which does not recognize the importance of relative values can fit into and serve the needs of the industry.

Generally there are slight variations in conformation, finish, and quality between different carcasses of the same grade. Furthermore, it is possible for two carcasses to be of equal excellence with respect to two characteristics and yet be placed in different grades because of variations in the third. Quality is the most important of the three fundamentals, yet quality is almost wholly dependent upon the degrees of conformation and finish. In fact, conformation and finish are to a great extent prerequisites of quality. A meat grader in determining quality or grade, first considers the conformation and finish. There are other factors which indicate quality, such as color, grain, and texture of the flesh and age of the animal as indicated by characteristics of the bones. Because of trade preferences, size and weight of carcasses frequently influence the prices but weight has no significance from the standpoint of grade.

Inasmuch as no two carcasses are exactly alike it necessarily follows that there must be a range of quality within each grade but in no case is the range of quality wide. Variations may be noted in conformation, finish, or quality or there may be slight deficiencies in some carcasses in all three grade factors. Because of these variations for which allowances are made, in actual practice the descriptions presented herewith refer to and describe carcasses and cuts which are typical of the several grades.

DEFINITION OF TERMS

Any discussion of grades of lamb and mutton involves the use of numerous terms, the purpose of which is to describe the various grades and differentiate a given grade from all others. Anyone who has a general idea of the meat business understands what is meant by such terms as conformation, finish, and quality but ideas of individuals in different sections of the country, and to some extent, of individuals in the same market, vary greatly. Until these differences disappear and the meaning of all descriptive terms are understood alike, there must be some confusion and dissatisfaction in buying and selling without a personal inspection. The first step then is to define the several factors and describe them in such a way that

there can be no misinterpretation of their meaning. Therefore, the terms used in describing the different grades as used in this bulletin are here defined and then are used without variation in meaning.

CONFORMATION

The term conformation covers the general build, form, shape, and contour or outline of the carcass or cut. It is dependent on the skeleton, the depth of flesh, and the thickness and distribution of external fat. Breeding is important and exerts a greater influence on conformation than any other single factor, although care and feed are each important contributing factors. Best conformation in lamb and mutton carcasses involves short, stocky, and plump legs, thick full loins, well-rounded and full backs, thick, well-fleshed ribs, a width of breast and shoulder commensurate with depth of barrel and chest cavity, and short plump necks. A poor conformation involves angularity in general outline, prominent back, shoulder, and hip bones, long thin necks and shanks, long, thinly-fleshed legs, and shallow loins and ribs. In poor conformation, there is a decided lack of symmetry in carcass or cut.

Aside from the fact that conformation has much to do with determining the relative attractiveness of the carcass or cut, its chief significance consists in the fact that it indicates the ratio between meat and bone, as well as the ratio between the more desirable cuts such as the loins, racks, and hind legs, and the so-called coarser cuts such as breasts and chucks.

FINISH

Finish refers to the thickness, color, character, and distribution of fat. Best finish implies a smooth, even covering of firm white fat over most of the exterior surface of the carcass, being thickest over loins and racks, but not excessive at any point. It implies a covering of smooth, white interior fat over the kidneys and in the crotch, and a much thinner covering over the inner surface of ribs. The latter may be slightly wavy. It involves relatively liberal deposits of fat between the muscles and along the connective tissue of the chucks and breasts. There is relatively little fat between the muscles of the hind legs even in highly finished carcasses.

In the matter of finish there is a marked difference in thickness of fat on lamb and mutton. Lamb carcasses seldom show any bunchiness or roughness in distribution of external fat. In fact, the fat is relatively thin and evenly distributed. Well-finished mutton carcasses, however, show much greater depth of fat, particularly over the backs and rumps.

Poor finish implies marked deficiency in external and internal fats, uneven distribution resulting in bunches or rolls, or a fat which is soft, flabby, and yellow instead of being firm and white or cream colored.

A high degree of finish adds much to the attractiveness of a carcass or cut, but its chief significance lies in the fact that a certain quantity of intermuscular and intercellular fat is essential to quality and palatability, and this usually bears a close relation to the quantity of external and internal fat of the carcass or cut. An overfinished condition, however, results in an uneven distribution of fat, fre-

quently noticeable in rolls or bunches or in excessive quantities of interior fats. Because an excess of fat in lamb or mutton is unpalatable and wasteful and shows an overfinished condition, such carcasses grade lower than those having a smooth, even finish, and hence usually sell at a lower price. A low percentage of kidney fats indicates a low-grade carcass, whereas excessive quantities of interior fats are the result of an overfinished condition. This then is an economic factor which affects production and is reflected in the price received for the live animal.

QUALITY

Quality is a characteristic of the flesh and the fat included therein. It pertains primarily to the thickness, firmness, and strength of both the muscle fiber and the connective tissue. It also involves the quantity, consistency, and character of juices and extractives which are contained in the muscle fiber and the fat surrounding the connective tissue. Although color does not actually determine quality it serves as an excellent index to what the quality of a given piece of meat is, and possesses commercial importance.

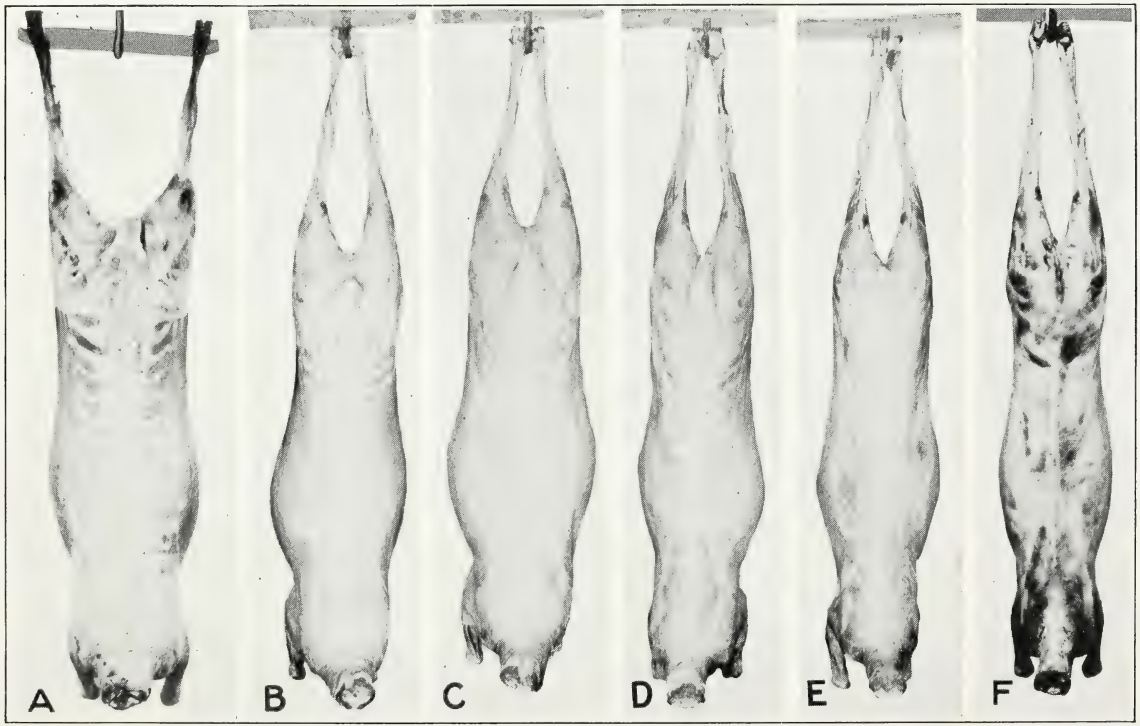
Best quality in lamb and mutton implies full, well-developed, firm muscular tissue or flesh with a minimum of strength in fiber and connective tissue. This is necessary to insure tenderness. Allowing for variations between the three groups, the flesh is fine-grained and smooth. Its color is light pink in lamb, dark pink to light red in yearling mutton, and somewhat darker in mature mutton.

Poor quality involves the opposite of most of the foregoing characteristics. Although the differences in the color of the flesh are not so outstanding as between good and poor quality beef, yet the differences between lamb and mutton of good quality and poor quality are always sufficiently great to be clearly recognized. Low-quality meats from all ovine animals have darker flesh than meat from high-quality animals of the same group. The ratio between muscle and connective tissue is relatively low as is also the ratio between flesh and bone. The grain is coarse and the general appearance is soft or watery and fibrous.

The significance of quality is great. It determines the palatability of the meat and the ease with which it can be prepared for human consumption. Quality is, therefore, by all means the most important factor in determining grade. The determination of quality presents a rather difficult problem, for it is a characteristic which pertains chiefly to the inner or concealed portions of the carcass and is not apparent to the superficial view in the same degree as conformation and finish. To determine quality exactly it is essential to have a cut surface or cross section exposed to view. Fortunately, there is such a close relationship between conformation, finish, and quality that the existence in a high degree of the first two virtually insures a high degree of quality.

GRADES OF LAMB CARCASSES

Lamb carcasses are graded as Prime or No. A 1, Choice or No. 1, Good or No. 2, Medium or No. 3, Common or No. 4, and Cull or No. 5.



LAMB CARCASSES, BACK VIEW

A, prime grade; B, choice grade; C, good grade; D, medium grade; E, common grade; F, cull grade

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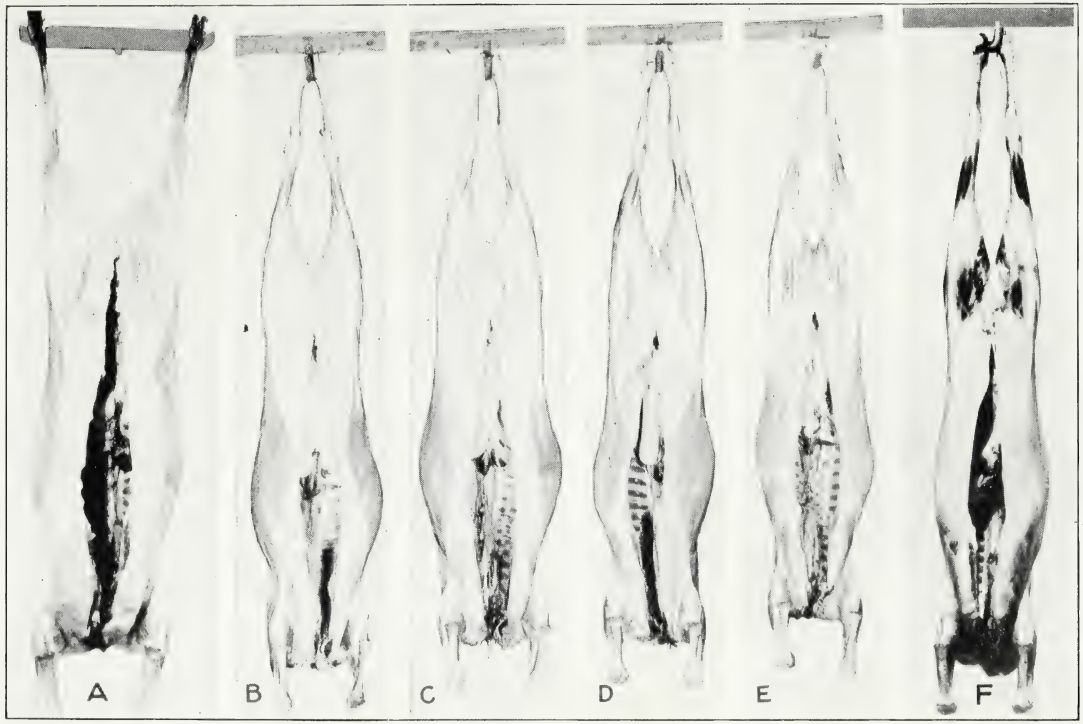


LAMB CARCASSES. STOMACH VIEW

A, prime grade; B, choice grade; C, good grade; D, medium grade; E, common grade; F, cull grade

Prime or No. A 1.—Prime or No. A 1 grade lamb carcasses are practically ideal in conformation, finish, and quality. The general outlines of carcasses of this grade are especially attractive, being symmetrical to a marked degree, owing to an abundance of highest grade, palatable flesh, particularly in the regions of the most desired cuts. They are very compact and blocky, have short, thick, plump legs, broad backs, thick, well-fleshed loins, ribs, and chucks, well-proportioned breasts, and full thick flanks. All fats are firm and of excellent quality, but they are not brittle.

Both exterior and interior fats are white or slightly creamy in color and may be tinged with pink. The outer covering of fat is smooth, of moderate depth, evenly distributed over the back and sides, and is free from all bunchiness or excessive deposits. The fat covering is interspersed with strips of pink flesh over the sides and a more even distribution over the lower limits of the breasts and flanks. Interior fats are plentiful but not excessive or wasty, the kidneys being covered to a uniform depth. The lean flesh is firm in all parts, fine-grained, and the cut surfaces feel smooth and velvety to the touch. Its color is light pink. The bones are relatively small, soft, and tinged with blood. The break joints of the forelegs show four well-defined, relatively soft, spongy red ridges. The percentage of carcasses and cuts which grade Prime or No. A 1 is relatively small. Carcasses and cuts of this grade are usually found on the markets after fat-stock shows, but rarely at other times.

Choice or No. 1.—Choice or No. 1 grade lamb carcasses have excellent conformation, finish, and quality, but are usually slightly deficient in one or more respects as compared with Prime grade carcasses. Choice grade carcasses are relatively short and compact, have short plump legs, broad thick backs, thick full loins, ribs, and chucks, short, plump necks, and well-proportioned flanks and breasts. The general outlines resemble closely those of Prime grade carcasses. All fats are of good quality, white or slightly creamy. The outer covering of fat is smooth and usually well distributed, but may be deficient in this respect as compared to that on Prime grade carcasses. Loins and ribs are well covered with fat which recedes to a moderately thin covering over hind leg and shoulders. The fat covering is interspersed with thin strips of pink flesh over the sides and a more even distribution over the lower limits of the breast and flanks. Interior fats are plentiful in the crotch and over the kidneys but not excessive. The flesh is fine-grained, firm, and has a light pink color. Bones are relatively small, soft, and tinged with blood. The break joint of the foreleg shows four smooth, moist, well-defined red ridges.

Good or No. 2.—Good or No. 2 grade lamb carcasses have good conformation, finish, and quality, but are deficient in one or more respects as compared to Choice grade carcasses. Carcasses of this grade are well proportioned and reasonably plump but may be slightly deficient in breadth or depth across the hips, backs, or shoulders. Legs, although short and moderately plump, are more tapering than in carcasses of the higher grades. Loins, ribs, and chucks are thick and full, and necks are short and reasonably plump. There may be slight indications of paunchiness or a slight tendency toward the rangy type which is indicated by long tapering shanks and somewhat longer body. Bones are soft and tinged with red, both points indicating a young animal. The break joints of the forelegs show four well-defined relatively soft red ridges.

The outer covering of fat is smooth and even over the back and hips, diminishing sharply toward the shanks and flanks. The fat covering is interspersed with thin strips of lean flesh under the fell, but these are not usually so pronounced as in Choice and Prime grade carcasses. Interior fats are plentiful, but they are unevenly distributed, being in greatest quantity in the regions of kidneys and crotch. All fats are of good quality and white or slightly creamy in color. The flesh is moderately firm, fine grained, and light pink in color.

Medium or No. 3.—Medium or No. 3 grade lamb carcasses have fair conformation, finish, and quality. They are ususally somewhat angular or rangy in conformation, with moderately long thin necks and shanks and relatively narrow hips, back, and shoulders. They have moderately long tapering legs and they lack the plumpness of the better grades. Ribs and loins are lacking somewhat in depth of flesh. The break joints of forelegs show four well-defined soft ridges, but these lack redness to a marked degree.

Carcasses of this grade usually have a moderately thin outer covering of fat but it is not evenly distributed. There are also some carcasses in this grade that have excessive quantities of fat which disqualify them for a higher grade. Interior fats are relatively scarce, the kidneys being only partially covered. Small quantities are also found in the crotch. The thin strips of lean under the fell are not nearly so prominent as in the better grades. Heavier carcasses of this grade or those approaching the yearling mutton stage have proportionately greater quantities of fat than lighter carcasses. The flesh is usually inclined to be soft, spongy, and moderately fine-grained, or may be firm in carcasses from heavier and older animals. Its color varies from light to dark pink.

Common or No. 4.—Common or No. 4 grade lamb carcasses are angular and have poor conformation, finish, and quality. All bones are prominent. Such carcasses are disproportionately long and narrow. The contour of the backbone is plainly visible from neck to tail. Sides are thin and flanks thin and flabby. There is little or no exterior or interior fat, slight traces being sometimes found around the kidneys and in the crotch. The heavier and older carcasses frequently have small patches of fat in the regions of the kidneys. This fat usually has a bluish tinge. Bones are usually soft but they lack the redness of those in better-grade carcasses. The break joints of forelegs have knuckle ends removed and show four well-defined, relatively soft ridges. Because of lack of finish the flesh is soft, spongy, and inclined to be watery. It appears coarse and fibrous. Its color may be dark pink or have a brownish tinge. Carcass weights vary widely and range from 15 to 40 pounds but usually are between 25 and 35 pounds.

Cull or No. 5.—Cull or No. 5 grade lamb carcasses are not offered regularly for retail trade and are found in the markets only occasionally. Such carcasses are almost entirely devoid of visible fat and are of the most inferior conformation and quality. Proportion of bone to meat is very high. In fact, the term "emaciated" properly describes carcasses of Cull grade lamb. The flesh is dark, soft, coarse-grained and, owing to lack of nourishment or other causes, appears fibrous to a marked degree. Except to supply a limited demand from certain foreign-born residents in the larger cities, who prefer lean flesh without fat or finish, Cull grade lamb

carcasses are seldom found on the markets. They are used principally for canning. Weights range usually from 15 to 25 pounds.

GRADES OF MUTTON CARCASSES

YEARLING MUTTON CARCASSES

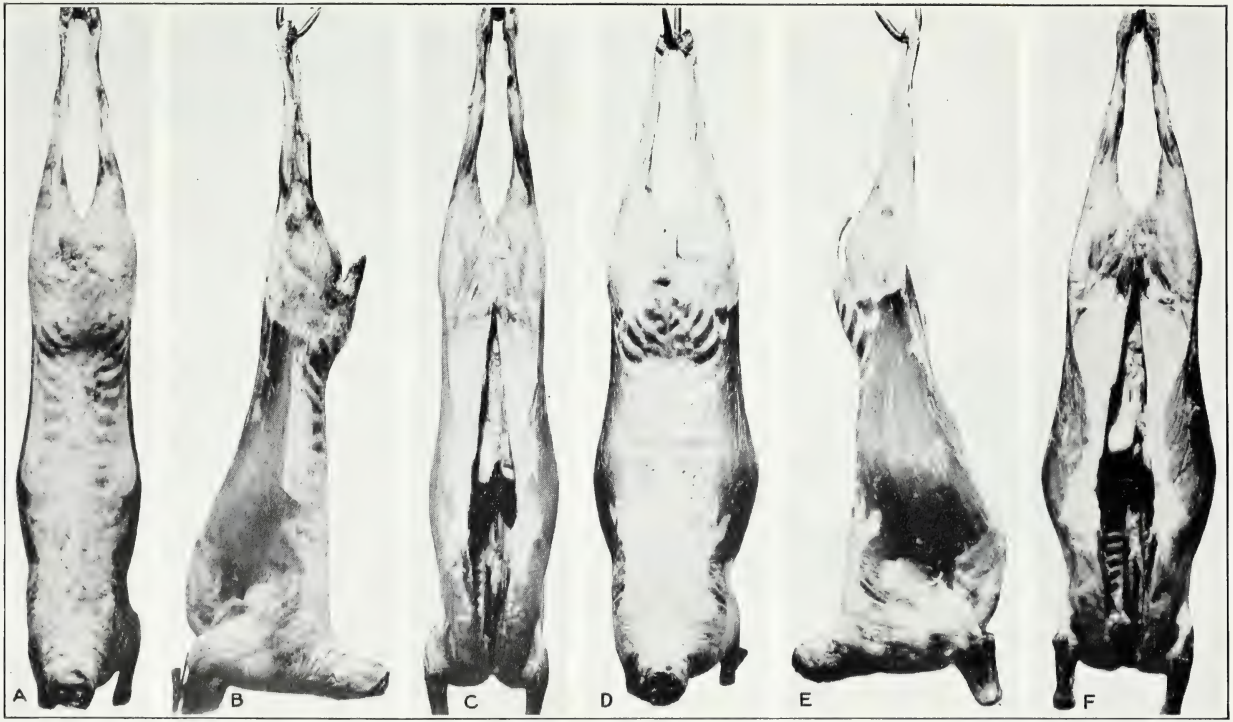
Yearling mutton carcasses are from animals of the ovine species that have passed the lamb age and lost to an appreciable extent the characteristics which are peculiar to lamb, but have not reached that stage of maturity at time of slaughter when they could be properly classed as mutton. The age limits for this group are approximately from 14 to 24 months. The grades of yearling mutton carcasses are Prime or No. A 1, Choice or No. 1, Good or No. 2, Medium or No. 3, Common or No. 4, Cull or No. 5.

Prime, or No. A 1.—Prime or No. A. 1 grade yearling mutton carcasses closely approach the ideal in conformation, finish, and quality. In many respects they resemble Prime grade lamb carcasses, differing principally in having somewhat longer bodies in proportion to width and depth, harder and whiter bones, slightly coarser flesh, and greater quantities of exterior and interior fats. They are compact and blocky, have relatively short, plump, well-fleshed legs, broad backs, thick, well-fleshed loins, ribs, and chucks, thick breasts and flanks. All fats are firm, white or slightly creamy, of excellent quality, and are slightly brittle.

The outer covering of fat is smooth, evenly distributed, of moderate depth, and free from bunchiness, The fat is interspersed with strips of medium pink lean flesh over the sides and a more even distribution over the flanks and breasts. Interior fats are plentiful, but not wasty. The kidneys are well covered to a fairly uniform depth, and the interior walls of the ribs have a thin covering. The lean flesh is firm in all parts, relatively fine grained and medium pink in color. The bones are moderately small and whiter than in Prime grade lamb carcasses. Yearling mutton carcasses which qualify for this grade are exceedingly scarce.

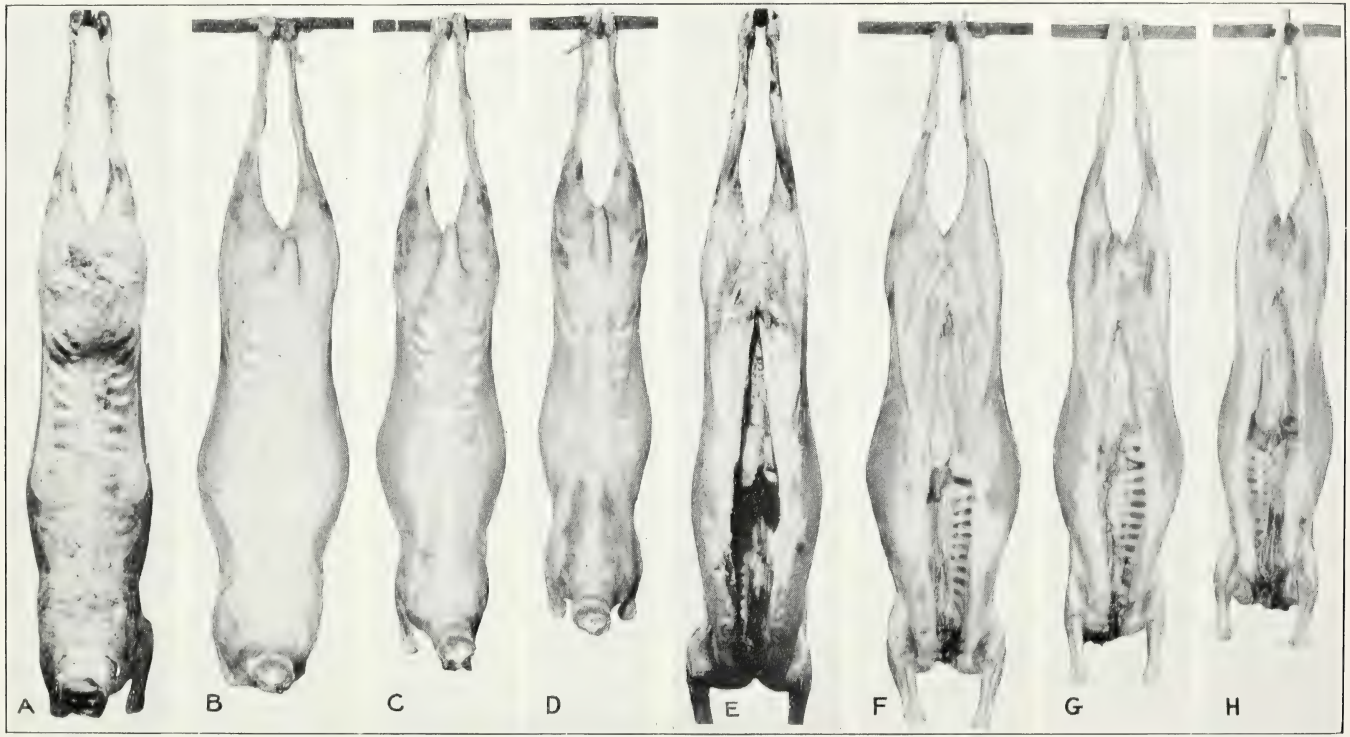
Choice or No. 1.—Choice or No. 1 grade yearling mutton carcasses have excellent conformation, finish, and quality. They have relatively short and plump legs, thick loins and ribs, full-fleshed shoulders, thick breasts and a length of body commensurate with depth and breadth of carcass. Choice grade carcasses have good breadth in proportion to length, but are relatively heavier in the forequarters than lamb carcasses of the same grade. They resemble Choice grade lamb carcasses in many respects, but have proportionately longer bodies, legs, and necks, larger abdominal cavities, and more distended ribs. Compared with lamb, the bones are harder and whiter. Where the foot is removed from the foreleg the end of the bone shows a rough, dry, and comparatively hard surface.

The outer covering of fat is smooth and well distributed, over loins, ribs, and shoulders. The fat covering is interspersed with thin strips of dark pink flesh under the fell extending over the sides and a more even distribution over the lower limits of the breasts and flanks. Interior fats are plentiful in the crotch and the kidneys are well and evenly covered. All fats are of good quality,



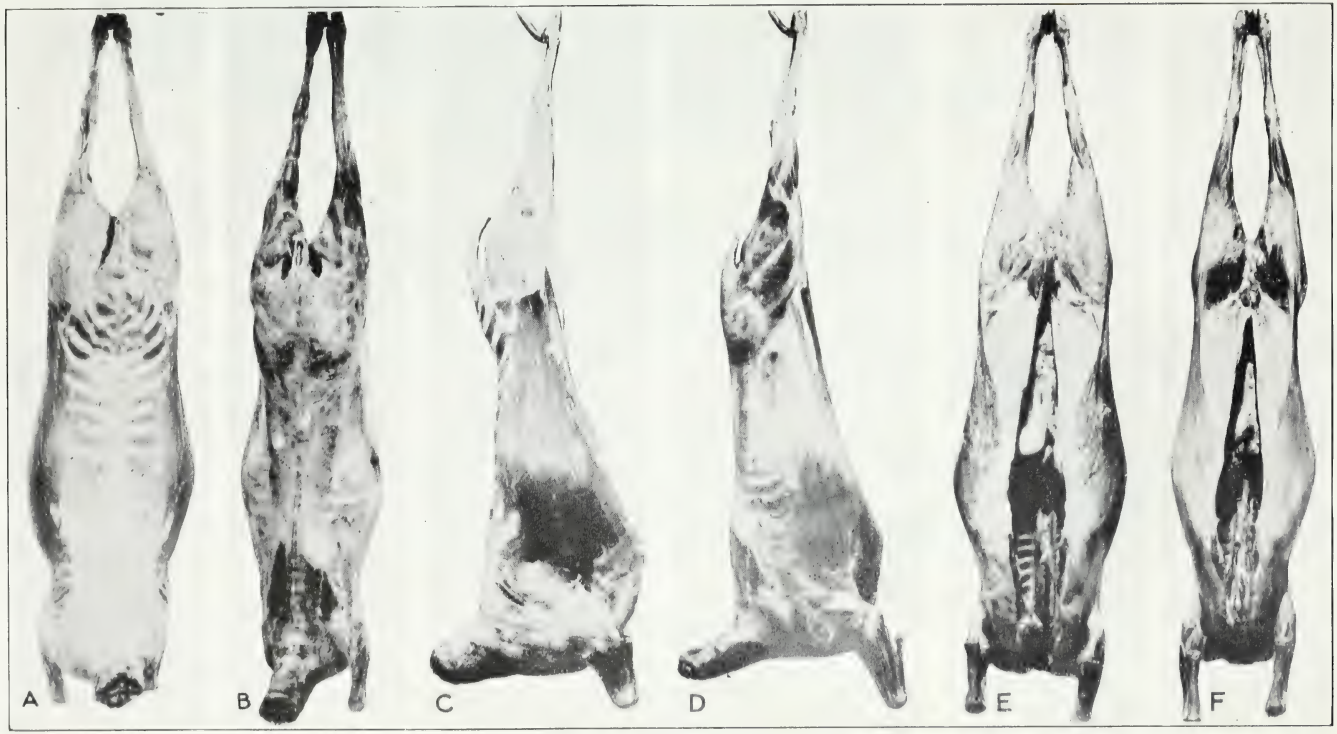
MUTTON CARCASSES

A, B, C, choice grade yearling mutton, three views; D, E, F, choice grade mature mutton, three views



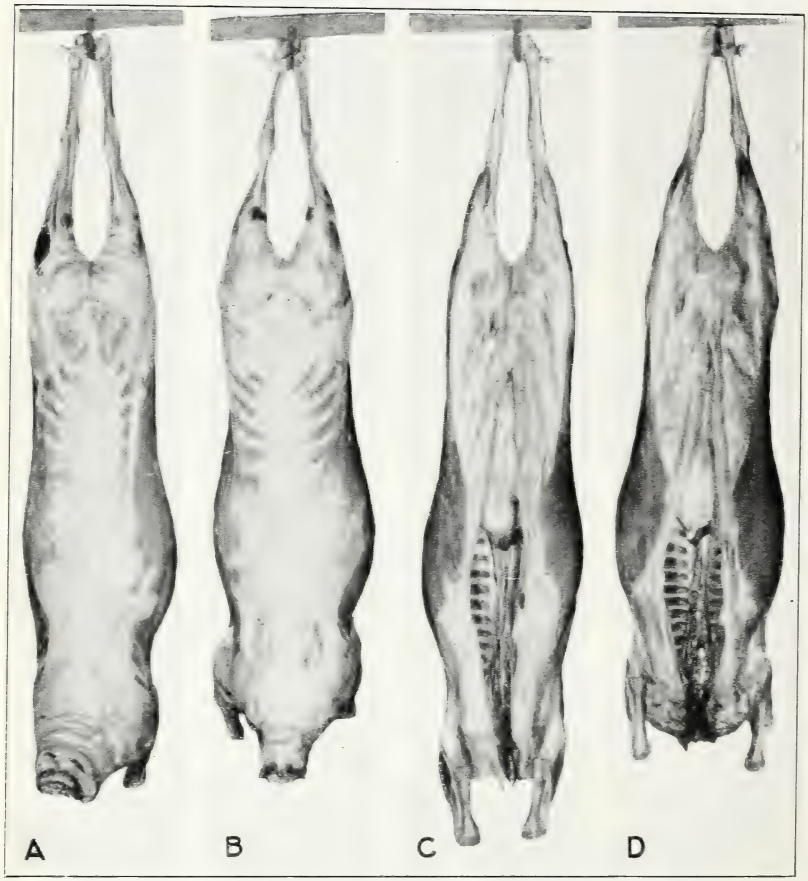
YEARLING MUTTON CARCASSES

A, E, choice grade; B, F, good grade; C, G, medium grade; D, H, common grade



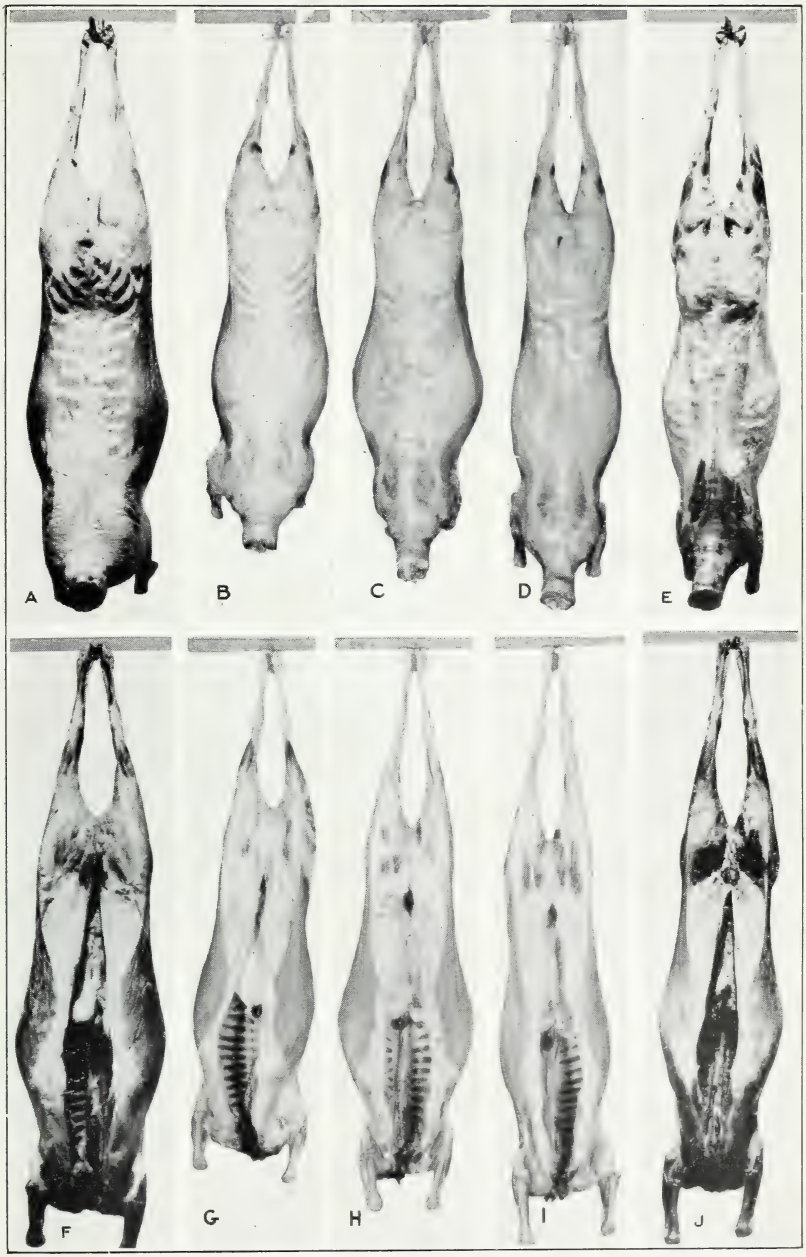
MATURE MUTTON CARCASSES

A, C, E, choice grade, three views; B, D, F, cull grade, three views



BUCK AND EWE MUTTON CARCASSES

A, C, buck; B, D, ewe



MATURE MUTTON CARCASSES

A, F, choice grade; B, G, good grade; C, H, medium grade; D, I, common grade; E, J, cull grade

white or creamy, and inclined to be brittle. The flesh is moderately fine grained, firm, and medium to dark pink in color.

Good or No. 2.—Good or No. 2 grade yearling mutton carcasses have good conformation, finish, and quality. Such carcasses, although reasonably plump, may be slightly deficient in breadth across the hips, back, and shoulders. Yearling mutton carcasses of this grade resemble Good grade lamb carcasses in many respects, but have proportionately longer bodies and legs, larger abdominal cavities, more distended ribs, and harder bones. The break joints of the forelegs are rough and dry and show little redness.

The outer covering of fat may be fairly even over the back, loins, and rumps or it may be slightly rough. Interior fats are plentiful in the crotch and the kidneys are usually well covered. The flesh is firm, moderately fine-grained, and has a deep pink to light red color. The greatest difference between Good and Choice grades yearling mutton carcasses is in conformation and finish.

Medium or No. 3.—Medium or No. 3 grade yearling mutton carcasses have fair conformation, finish, and quality. To some extent they lack the fullness or plumpness in legs, loins, and ribs found in Good carcasses. Shoulders are usually thinly fleshed, and inclined to be rough, necks are long, and legs long and tapering. There is usually a thin covering of fat over the shoulders, a moderate quantity on the loins, ribs, and breasts, and practically none elsewhere. Except for small quantities around the kidneys and in the crotch, interior fats are scant. Although the flesh is moderately fine grained, it usually has a relatively high percentage of moisture and varies in color from deep pink to light red.

Common or No. 4.—Common or No. 4 grade yearling mutton carcasses are the lowest grade which are offered regularly for sale by the retail trade. The principal features which distinguish this grade are the marked lack of quality and finish and the high percentage of bone to flesh. Such carcasses also have poor conformation. The contour of the backbone is plainly visible from neck to tail. Except for small and uneven patches on the shoulders and back, there are usually no other exterior fats. Interior fats are generally lacking, but there may be slight traces in the region of the kidneys and in the crotch. The flesh is very moist, soft, flabby, and dark red in color.

Cull or No. 5.—Cull or No. 5 grade yearling mutton carcasses are seldom found in retail markets. The grade is all that the term "cull" implies. Such carcasses are usually from emaciated animals. All bones are prominent to a marked degree, and both exterior and interior fats are almost totally lacking. The flesh is dark, coarse, soft, and watery. Aside from a limited demand from some foreign-born residents in the larger cities, none is sold at retail to the fresh-meat trade. The bulk is boned at packing plants and used for canning.

MATURE MUTTON CARCASSES

Mature Mutton is graded on the basis of conformation, finish, and quality. The grades are Prime or No. A 1, Choice or No. 1, Good or No. 2, Medium or No. 3, Common or No. 4, and Cull or No. 5.

Prime or No. A 1.—Prime or No. A 1 grade mature mutton carcasses are ideal in conformation, finish, and quality. They resemble Prime grade yearling mutton carcasses in many respects, but have

harder, whiter bones, darker flesh, and more brittle fats. They are relatively short, compact, and blocky, with a high percentage of meat to bone, and carry a high percentage of the total carcass weight in the legs, loins, and racks. Legs are relatively short, thick, and plump, loins and ribs are deeply fleshed, shoulders are full and compact, breasts are thick, necks relatively short and plump, and flanks full. Bones are somewhat white and hard, but most carcasses of this grade are from relatively young sheep. The feet are severed from the legs at the ankle joint, leaving two smooth, hard, white ridges. The outer covering of fat is fairly deep, smooth, and evenly distributed, but not excessive at any point. Interior fats are plentiful in the crotch, over the kidneys, and on the inside of the chest cavity, but are not excessive or wasty. All fats are of excellent quality, are creamy white, tending to a yellowish tinge, and are brittle.

The strips of lean under the fell on the sides and breasts are prominent, and light red in color. The flesh is firm, fine-grained, and of light red color.

Choice or No. 1.—Choice or No. 1 grade mature mutton carcasses resemble Choice grade yearling mutton carcasses rather closely in some respects, but have harder bones, darker flesh, and more brittle fat. Choice grade carcasses have excellent conformation, finish, and quality. They have relatively short, stocky legs, thick loins and ribs, full fleshy shoulders, and thick breasts. Carcasses of this grade have good breadth in proportion to length and are not rangy or angular. Bones are relatively hard and white. The feet are severed from the legs at the ankle joints. The joints of the forelegs show two smooth, hard, white ridges.

The outer covering of fat is smooth and evenly distributed, having greatest depth over the rumps, loins, and back, but is not excessive at any point. Interior fats are plentiful in the crotch, around the kidneys, and on the interior walls, but are not wasty. All fats are of excellent quality, creamy colored, inclining to a yellowish tinge, and brittle to a marked degree.

The strips of lean under the fell on the sides and breasts are prominent and are light red in color. The flesh is firm, moderately fine grained, and has a light red color. Bunchy or excessive quantities of exterior or interior fat bar a carcass from this grade.

Good or No. 2.—Good or No. 2 grade mature mutton carcasses have good conformation, finish, and quality. Good grade carcasses, although well proportioned and moderately plump, may be slightly deficient in breadth or depth across the hips, back, and shoulders as compared to choice carcasses. Legs are relatively short and thickly fleshed. Good grade carcasses generally have wider barrels and more distended ribs than choice carcasses. The grade admits a higher percentage of ewes and the bones may be slightly harder and more flinty.

The outer covering of fat, although fairly even, varies to some extent and may be slightly excessive on the rumps or deficient on the shoulders, breasts, and flanks. Interior fats are plentiful but may be slightly deficient or excessive as compared to Choice grade carcasses although not to a marked degree. The strips of lean under the fell on the sides are less prominent than on Choice grade carcasses but these are well defined. The flesh is firm, slightly coarse grained and light to medium red in color.

Medium or No. 3.—Medium or No. 3 grade mature mutton carcasses have fair conformation, finish, and quality. Carcasses of this grade lack the fullness or plumpness in legs, loins, and ribs found in carcasses of the better grades. Shoulders are only moderately well fleshed. Carcasses of this grade are relatively narrow through the hips and across the back, and the bones of the spinal column are prominent. Because of these deficiencies such carcasses appear somewhat long and angular. The abdominal cavity is relatively wide and the curvature of the ribs is very marked, especially in ewe mutton carcasses.

The thin strips of lean flesh under the fell which are so prominent on well-finished carcasses are only slightly in evidence on Medium grade carcasses. There is usually a thin covering of fat over the back, loins, and rumps, but practically none on the legs. The flanks are inclined to be thin. There are moderate quantities of interior fats around the kidneys but not sufficient quantities to cover them and there are only traces elsewhere. The flesh is moderately firm, but somewhat coarse grained and medium to dark red in color.

Common or No. 4.—Common or No. 4 grade mature mutton carcasses are the lowest grade offered regularly for retail trade purposes. They are angular in conformation, thinly fleshed, and lacking in finish. Such carcasses are narrow across the hips, loins, backs, and shoulders. The contour of the backbone is plainly visible from end to end and other bones are prominent. The grade consists principally of carcasses from old, thin-fleshed ewes. The bones are therefore usually hard, white, and flinty. Small and uneven patches of exterior fat are occasionally found on loins, backs, or shoulders. There are usually traces of fat around the kidneys, but practically no other interior fats. That which is found is of poor quality. The flesh is coarse grained, inclined to be soft and flabby, and dark red in color.

Cull or No. 5.—Cull or No. 5 grade mature mutton carcasses are all that the term "Cull" implies. They are mostly from old, worn-out, emaciated ewes, and are not found on all dressed-meat markets. All bones are prominent and the proportion of bone to flesh is exceedingly high. Carcasses are entirely devoid of visible fat and the flesh is very unattractive. It is soft, flabby, watery, and very dark in color. Such carcasses usually are boned and the flesh is used for canning.

STANDARD WHOLESALE CUTS OF LAMB AND MUTTON

Carcasses of lamb and mutton are rarely divided into parts or cuts before they reach the wholesale markets. To a considerable extent whole carcasses are sold as such to retail dealers and division into cuts is usually made by the retailer. In the case of hotel and restaurant trade and some retail dealers carcasses are divided into cuts at the wholesale market, principally because such buyers require only certain cuts to satisfy their customers or they sell more of certain cuts than others. Carcasses of lamb and mutton are seldom divided or split into sides, except for retail purposes, therefore the term "quarter" which is commonly used in connection with trading in beef, is seldom used in the wholesale lamb and mutton trade.

The division of carcasses into wholesale cuts differs materially from beef and the terms used to designate the wholesale cuts of lamb and mutton are different. Divisions of carcasses into wholesale cuts differ widely between markets and the use of terms to describe the same or similar cuts varies in different sections of the country. All of these differences preclude to some extent a proper understanding of the exact meaning which one intends to convey and hampers trading in cuts between markets.

Methods of cutting and names of wholesale cuts are the same whether the carcasses are lamb or mutton. The major wholesale cuts generally recognized at most markets are hindsaddle and foresaddle, each comprising about 50 per cent of the carcass weight. The division is made between the twelfth and thirteenth ribs, one pair of ribs remaining on the hindsaddles. There are subdivisions of these two major cuts in all markets and the subdivisions vary greatly between markets according to local customs and demands. Because of these variations it is impossible to include all of the different trims and cuts in any scheme of standardization. The Chicago method of dividing carcasses into wholesale cuts which is now in more general use than any other method has been adopted as the basis for standardizing the wholesale and retail cuts.

DESCRIPTION OF WHOLESALE CUTS AND SUBDIVISIONS

In addition to the two major cuts of hindsaddle and foresaddle of lamb and mutton, there are six subdivisions of these cuts which are important and are generally recognized. The subdivisions of the hindsaddles are legs, loins, and flanks. The subdivisions of the foresaddle are hotel rack, chucks, and breasts. The major division and the subdivisions are the same whether lamb or mutton carcasses are considered.

Hindsaddles.—A hindsadddle consists of the two hind legs, two loins, two flanks, and one pair of ribs. A hindsaddle is severed from the carcass by cutting between the twelfth and thirteenth ribs, following the curvature of the ribs. Although most ovine animals have 13 pairs of ribs, there are exceptions in which a greater number of ribs occur. In such instances the extra ribs are left on the foresaddle.

Foresaddles.—A foresaddle is the remainder of the carcass after a hindsaddle has been removed. It consists of a hotel rack, chuck, breasts, and fore shanks. The cut is severed from the carcass between the twelfth and thirteenth ribs, therefore it includes 12 pairs of ribs.

Legs.—Legs are a subdivision of the hindsaddle and consist of the two hind legs with loins removed. The division is made at the point where the spinal column bends upward or at about the sixth lumbar vertebræ. Legs equal approximately 33 per cent of the carcass weight.

Loins.—The loin is a subdivision of the hindsaddle and consists of both loins of a carcass. It includes the flanks and one pair of ribs. The division from the legs is made at the point where the spinal column bends upward. The loin equals approximately 17 per cent of the carcass weight.

Flanks.—A flank is that portion of the carcass immediately in front of the hind leg and under the loin. Except for the tip end of the thirteenth rib a flank is boneless. There are two flanks in a carcass.

Hotel racks.—A hotel rack is one of the subdivisions of a foresaddle and includes parts of nine pairs of ribs. It is removed from a foresaddle between the third and fourth pairs of ribs and has the breasts removed. A hotel rack equals 12 per cent of the carcass weight.

Chucks.—The term chuck as commonly used in the markets refers to the shoulders and neck in one piece. It includes three pairs of ribs, but the breasts and shanks are removed. The chuck equals approximately 23.5 per cent of the carcass weight.

Breasts.—Breasts of ovine carcasses correspond to the plates, briskets, and shanks of a beef carcass. They include the tip ends of nine ribs and the foreshank. There are two breasts from a carcass. They equal approximately 14.5 per cent of carcass weight.

Other terms which are fairly common in certain markets are "rattles," "stews," "slugs," and "market rack." The term "market rack" as understood by the trade refers to a foresaddle as described in this bulletin. The terms "rattles," "stews," and "slugs" all refer to the same or similar cut which consists of the chucks, breasts, shanks, and neck. It comprises all the forequarter except the hotel rack. A "wing" consists of the two shoulders, shanks, neck, and breasts. It is the remaining part of the foresaddle after the hotel rack is removed. A "bracelet" comprises the hotel rack plus the portions of the breasts which correspond with the plates in a beef carcass.

PERCENTAGE YIELDS OF WHOLESALE CUTS

The relation of the wholesale cuts to the carcass, expressed in percentages varies with the method of cutting. Because of differences in conformation of lamb and mutton carcasses, there are corresponding differences in the percentage yields of cuts from the three groups of carcasses.

The percentages vary also to some extent with the shifting of values for the various cuts and are influenced by the desire of the wholesale dealer to get the most money he can for the meat. There are also variations in percentage yields of cuts owing to the grade of the carcass. Better-grade carcasses yield proportionately greater quantities of meat in the preferred cuts, particularly loins and racks, than low-grade carcasses. Low-grade carcasses on the other hand have relatively heavier shoulders. These differences affect percentage yields of cuts in relation to the carcass. All of these factors should be considered when any set of percentage figures is used to determine average selling prices. Information in Table 1 applies only to lamb carcasses of Choice grade at the markets named. Because of these variable factors certain variations in percentage yields of cuts between carcasses of different grades necessarily follow.

Table 1 shows striking variations in yields of wholesale cuts in different markets. Other variations exist in other markets and sometimes there are slight variations in the same market.

As the demand for lamb and mutton increases, and consumption broadens, the tendency of the trade to purchase more and more cuts logically follows. This increases proportionately the need for a uniform method of dividing carcasses into cuts and involves economies in marketing which should not be overlooked.

TABLE 1.—*Approximate percentage of total weight of choice-grade lamb carcasses represented by each wholesale cut under different methods of cutting*

Wholesale cut	Per cent
CHICAGO, ILL.	
Hindsaddle (1 rib)	50
Foresaddle (12 ribs)	50
	100
Subdivisions:	
Legs	33
Loins (including flank)	17
Hotel rack (9 ribs)	12
Chuck (including neck)	23.5
Breasts (including shanks)	14.5
	100
LOS ANGELES, CALIF.	
Hindsaddle (1 rib)	49
Forequarters (12 ribs)	51
	100
Subdivisions:	
Legs	30
Loins (including flank)	19
Hotel rack (9 ribs)	13
Chucks (including neck and breasts)	38
	100
PHILADELPHIA, PA.	
Hindsaddle	48
Foresaddle (13 ribs)	52
	100
PHILADELPHIA, PA.—continued	
Subdivisions:	
Leg	30
Loin	18
Rack	15
Wing	37
	100
NEW YORK, N. Y.	
Hindsaddle	50
Foresaddle (13 ribs)	50
	100
Subdivisions:	
Legs	33
Loin (including flank)	17
Rack (9 ribs)	12
Chucks (including neck and shanks)	30
Breasts	8
	100
BOSTON, MASS.	
Legs	34
Chops (8 ribs including loin)	32
Forequarter (5 ribs)	34
	100

In the division of mutton carcasses into wholesale cuts there are more striking variations in yields of cuts than in the case of lamb. For instance, the percentage yield of legs from a Choice grade lamb carcass is 1 to 2 per cent greater than the yield of legs from a Choice grade mutton carcass. With proper allowance for greater quantities of kidney fat in mutton carcasses, loins from lamb carcasses also show an increase yield of approximately 1 to 2 per cent. Percentage yields of racks and chucks from lamb and mutton carcasses of the same grade are generally very close. Mutton carcasses, however, show a much greater percentage of breasts and shanks.

STANDARD GRADES OF WHOLESALE LAMB AND MUTTON CUTS

The grade of the wholesale cuts of all meats usually corresponds to the grade of the carcass from which they were taken. But a carcass falling within the Good grade might, for example, have loins or legs which would grade Choice or Medium, if considered alone and not as a part of the entire carcass. In such case the cut would not be of the same grade as the carcass, since its excellence or deficiency would be compensated for by some other part in the final determination of the grade of the carcass.

For this and other reasons it is desirable to consider the wholesale cuts by themselves according to their conformation, finish, and quality. In many instances the weight of the cut rather than the grade influences the price. This at times has resulted in penalizing lighter cuts of choice quality as compared with heavier cuts of a lower grade. In some cases involving the purchase of lamb cuts the

weight factor has made possible the substitution of mutton cuts, particularly where a thorough knowledge by the buyer is lacking.

The grade of a wholesale cut is more difficult to determine than the grade of a carcass. In some instances it is difficult to determine whether a certain cut is of lamb or mutton, particularly if the cut is from a carcass that possesses some of the characteristics of two groups. A situation of this kind, for example, might result from the division of a yearling mutton carcass, which closely approaches lamb, into wholesale cuts. In such a carcass all the characteristics peculiar to yearling mutton have not developed, and in some parts of the carcass lamb characteristics may predominate. There are, however, slight differences in texture and color of the flesh and hardness and appearance of the bones, and in the color and firmness of the fat. In such cases, to determine whether it is lamb or yearling as well as the grade requires long experience.

The differences between cuts of mature mutton and those of lamb or yearling mutton are more pronounced. The shape, size, and thickness of mutton cuts, the texture and color of the flesh, and the color and brittleness of the fat usually contrast sharply with those of the other two groups. The greatest difficulties arise in differentiating between lamb and yearling mutton.

The grades of wholesale cuts of lamb and mutton are Prime, or No. A1; Choice, or No. 1; Good, or No. 2; Medium, or No. 3; Common, or No. 4; and Cull, or No. 5.

GRADES OF WHOLESALE LAMB CUTS

The wholesale cuts and their subdivisions are hindsaddle, foresaddle, legs, loin, flank, hotel rack, chuck, and breast. Grade for grade, the wholesale cuts of yearling mutton carcasses resemble those of lamb in most respects. For this reason it has not been considered necessary to give detailed descriptions of the various wholesale cuts of yearling mutton carcasses. Lamb carcasses and cuts are distinguished by soft reddish bones, resilient fat, fine-textured light-colored flesh and by the four soft, moist red ridges of the forelegs when the latter are present.

Yearling mutton carcasses and cuts have harder, whiter bones, relatively coarser, darker flesh, firmer and more brittle fat grade for grade, are usually of larger size, and may also be distinguished by the rough, coarse, or splintered ends of the forelegs when the latter are present.

By keeping in mind the characteristics which are peculiar to each group the determination of the one to which the wholesale cuts belong should not be difficult.

Inasmuch as these characteristics affect values, a knowledge of all the factors is essential. Having determined the group, the act of grading is comparatively easy.

GRADES OF LAMB HINDSADDLES

Prime or No. A1.—Prime or No. A1 grade lamb hindsaddles have short, plump, thick, and full legs, and broad, thick loins. Flanks are thick and have a high percentage of fat. The outer covering of fat is moderately thick, smooth and even and extends well over the surface, diminishing gradually toward the shanks. Interior fats are

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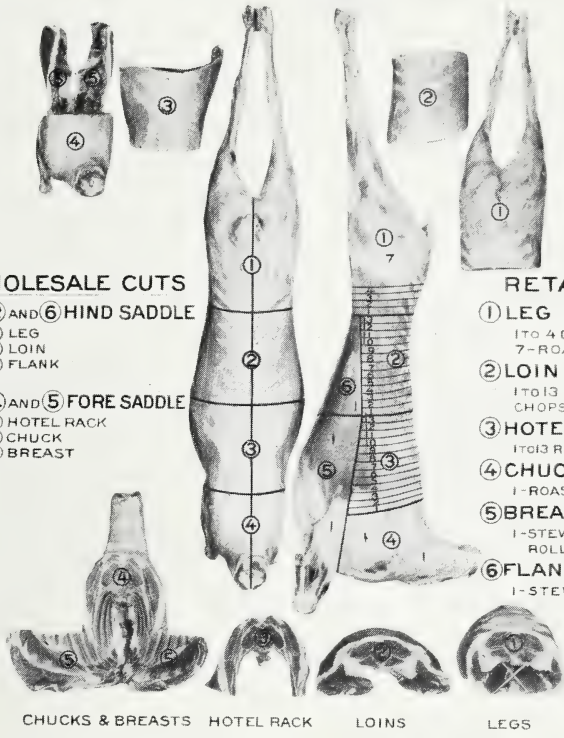
DIVISION OF LIVESTOCK, MEATS AND WOOL

LAMB CHART



WHOLESALE CUTS

① ② AND ⑥ HIND SADDLE
- ① LEG
- ② LOIN
- ⑥ FLANK

③ ④ AND ⑤ FORE SADDLE
- ③ HOTEL RACK
- ④ CHUCK
- ⑤ BREAST

RETAIL CUTS

① LEG
1 TO 4 CHOPS
7-ROAST

② LOIN
1 TO 13 LOIN AND KIDNEY CHOPS OR ROAST

③ HOTEL RACK
1 TO 13 RIB OR FRENCH CHOPS

④ CHUCK
1-ROASTS AND STEWS

⑤ BREAST
1-STEWS OR BONED AND ROLLED ROASTS

⑥ FLANK
1-STEWS

CHUCKS & BREASTS HOTEL RACK LOINS LEGS

Numerals in circles ( ) refer to wholesale cuts. Other numerals refer to retail cuts

YIELDS OF WHOLESALE CUTS

PER CENT OF CARCASS	
① ② & ⑥ HIND SADDLE	50.0%
③ ④ & ⑤ FORE SADDLE	50.0%

SUBDIVISIONS — PER CENT OF CARCASS	
① LEGS	33.0%
② & ⑥ LOIN AND FLANK	17.0
③ HOTEL RACK	12.0
④ CHUCK INC. NECK	23.5
⑤ BREAST INC. SHANK	14.5

plentiful but not wasty, and kidneys are well and evenly covered. All fats are white or slightly creamy, of excellent quality, firm but not brittle. The strips of lean under the fell on the loin are plainly visible and in striking contrast to the rest of the surface. These strips are light pink in color. The lean flesh is fine grained, firm, velvety, and light pink in color. Bones are soft and red.

Choice or No. 1.—The greatest differences between Choice and Prime grade hindsaddles are usually in the quantity and distribution of fat. Choice grade hindsaddles generally have less fat and as a rule it is not so evenly distributed. There may be greater quantities of fat, but this must not be excessive, wasty, or bunchy. Choice grade hindsaddles are usually slightly lacking in conformation. Bones are soft and red. The flesh is firm, fine grained, and light pink in color.

Good or No. 2.—Good or No. 2 grade lamb hindsaddles have relatively short legs but they may be slightly deficient in thickness or fullness as compared to those of choice hindsaddles. Good grade lamb hindsaddles may also be slightly deficient in breadth or thickness across the loins. Flanks are only moderately thick. There is a moderate covering of exterior fat over the loins and rumps, diminishing sharply toward the shanks. Interior fats are plentiful in the crotch, and the kidneys are fairly well covered. Bones are soft and red. The thin strips of lean on the loin under the fell are distinct but the contrast is not so sharp as on saddles of higher grades. The flesh is moderately firm, fine grained, and light pink in color.

Medium or No. 3.—Medium or No. 3 grade lamb hindsaddles have moderately long tapering legs which lack plumpness, and relatively narrow loins and hips. The outer covering of fat is moderately thin on top of the loins but is generally lacking elsewhere. The thin strips of lean under the fell on loins of better grades are usually only slightly in evidence on Medium grade saddles. Interior fats are relatively scarce and the kidneys are usually only partially covered. Small quantities are also generally found in the crotch. Bones, although soft, lack some of the redness of cuts from better-finished carcasses. The flesh is usually inclined to be soft, moderately fine grained, and slightly darker than that found in the better grades. Its color varies from light to dark pink.

Common or No. 4.—Common or No. 4 grade lamb hindsaddles have long thin legs and flat or sunken loins. Flanks are thin and flabby. Bones are prominent and the proportion of bone to meat is high. Usually there is little or no exterior or interior fat or there may be slight traces or streaks on the loins close to the spinal column and in the regions of the kidneys and crotch. The bones although soft, lack redness. The flesh is coarse, soft, flabby, and inclined to be watery, and because of a lack of finish, has a dull dark cast, inclining somewhat to a brownish tinge.

Cull or No. 5.—Hindsaddles from Cull grade lamb carcasses are not offered generally on the markets and are not a factor in the fresh-meat trade. Cull grade lamb hindsaddles are markedly deficient in all respects. The proportion of bone to meat is high. Legs are long, thin, and dished or sunken, and loins are very thin. Bones are prominent to a marked degree and the flesh has the appearance of hanging to the bones rather than surrounding them. There is little visible fat, either interior or exterior, and the flesh is soft, flabby, watery, coarse, and dark.

GRADES OF LAMB LEGS

Prime or No. A1.—Prime or No. A1 grade lamb legs are short, plump, thick, and full. Bones are soft and red. The outer covering of fat is smooth and even and extends well over the rumps and thick part of the legs and diminishes gradually toward the shanks. All fat is white or slightly cream colored and firm but not brittle. Interior fats are plentiful in the crotch. The lean flesh is fine grained, firm, velvety, and has a light pink color.

Choice or No. 1.—Choice or No. 1 grade lamb legs resemble Prime grade lamb legs in most respects. They may be slightly deficient in thickness or plumpness, but more often lack the smoothness and evenness of fat distribution found on Prime grade legs. In all other respects differences between the two grades are only slight. The flesh is firm, fine grained, and light pink in color. Bones are soft and red.

Good or No. 2.—Good or No. 2 grade lamb legs are relatively short but may be slightly deficient in thickness or fullness as compared to Choice grade legs, and are usually more tapering. There is a moderate covering of white fat over the rumps, diminishing sharply toward the shanks. Interior fats are plentiful in the crotch. Bones are soft and red. The flesh is moderately firm, fine grained, and light pink in color.

Medium or No. 3.—Medium or No. 3 grade lamb legs are moderately long and tapering and lack the plumpness of the better grades. Fat is scarce and except for small spots or patches on the rumps and in the crotch is generally lacking elsewhere. Bones, although soft, lack some of the redness of those found in better-finished carcasses. The flesh is usually inclined to be soft, only moderately fine grained, and slightly dark. Its color varies from light to dark pink.

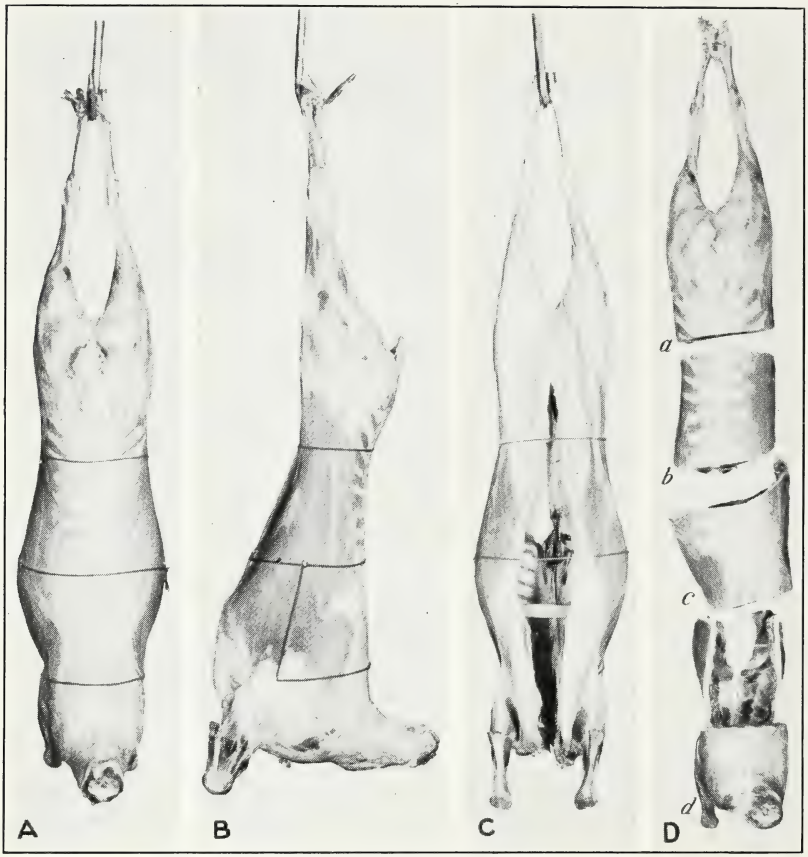
Common or No. 4.—Common or No. 4 grade lamb legs are long, thin, and tapering. Bones are soft but prominent and lack redness. Fats are generally scarce. There may be slight traces or streaks on the thicker parts of the legs and in the crotch. The flesh is coarse, soft, flabby, and inclined to be watery. It has a dull, dark cast inclining somewhat to a brownish tinge.

Cull or No. 5.—Cull or No. 5 grade lamb legs are not offered generally for fresh-meat consumption. They are long, thin, and dished or sunken. Bones are prominent, soft, and lack redness. Visible fat is usually almost entirely lacking. The flesh is soft, flabby, watery, coarse, and dark.

GRADES OF LAMB LOINS

Prime or No. A 1.—Prime or No. A 1 grade lamb loins are broad, thick, full, and well developed. Flanks are thick and have a high percentage of fat. The bones of the spinal column are soft and red. The outer covering of fat is moderately thick, smooth, and evenly distributed, extending well down over the flanks. The thin strips of lean under the fell are sharply defined and in striking contrast to the rest of the surface. Interior fats are plentiful but not wasty, and kidneys are well and evenly covered. All fats are white or slightly creamy, of excellent quality, and firm but not brittle. The flesh is firm, fine grained, velvety, and light pink in color.

Choice or No. 1.—Choice or No. 1 grade lamb loins resemble Prime grade loins closely but may be slightly deficient in conformation.



WHOLESALE CUTS OF LAMB

A, B, C, three views of carcass marked to show wholesale cuts; D, carcass after following cuts have been made: *a*, legs; *b*, loin and flank; *c*, hotel rack; *d*, chuck and breast, including neck

Flanks are fairly thick and well filled out. Generally the fat covering is not so smooth or evenly distributed as on Prime loins. Interior fats are plentiful and kidneys are well covered. There may be greater quantities of fat than are found in Prime grade loins but such fat deposits should not be excessively bunchy or wasty. Bones are soft and red. The flesh is firm, fine grained, and light pink in color.

Good or No. 2.—Good or No. 2 grade lamb loins lack somewhat the thickness and fullness of those of higher grades. The flanks are only moderately plump. There is a moderately thick covering of exterior fat which diminishes sharply toward the flanks. Interior fats are plentiful and the kidneys are fairly well covered. Bones are soft and red. The thin strips of lean under the fell are distinct, but the contrast is not so sharp as on those of higher grades. The flesh is moderately firm, fine grained, and light pink in color.

Medium or No. 3.—Medium or No. 3 grade lamb loins are moderately thin, narrow, and lack fullness. There is usually a moderately thin outer covering of fat along the backbone and scarcely any on the sides and flanks. Interior fats are relatively scarce and the kidneys are usually only partially covered. The thin strips of lean under the fell which are more or less prominent on loins of better grades are usually only slightly in evidence on medium loins. Bones are soft but may lack some of the redness found in better-finished carcasses. The flesh is usually inclined to be soft, moderately fine grained, and slightly darker than good grade loins. Its color varies from light to dark pink.

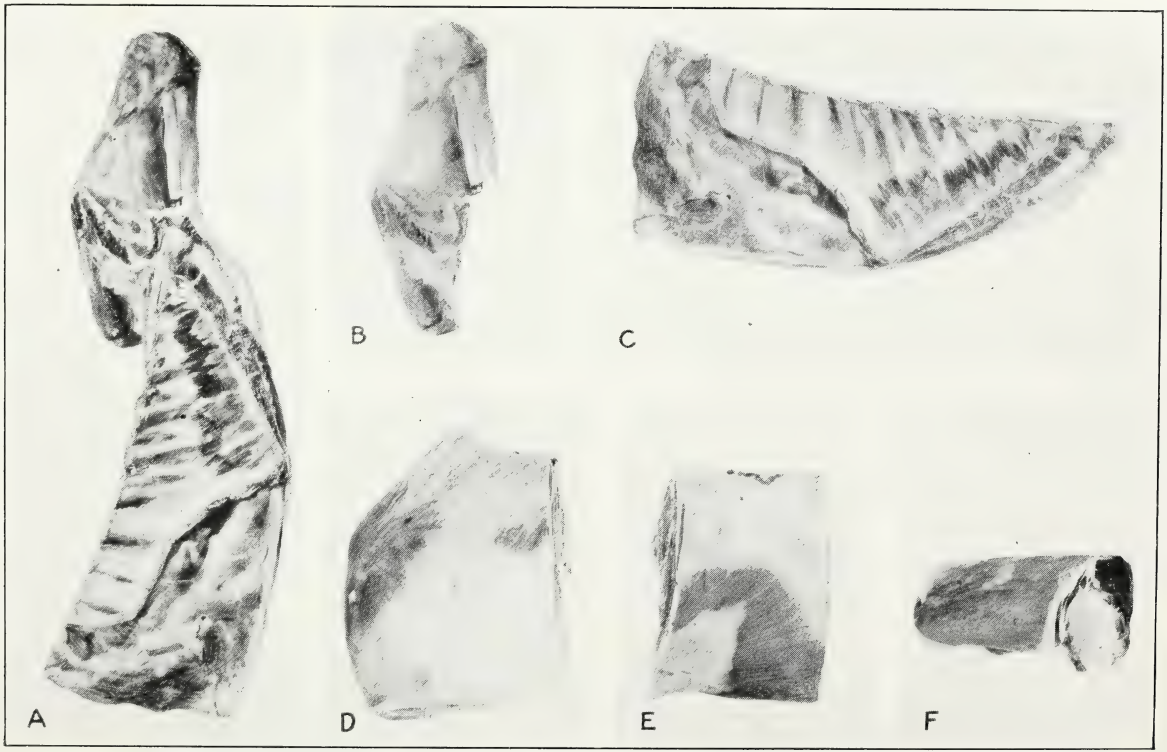
Common or No. 4.—Common or No. 4 grade lamb loins are the lowest grade usually found on the markets and they represent a very small percentage of the offerings. Such loins are thin, flat, or sunken. Flanks are thin and flabby. Bones are prominent and the proportion of bone to meat is high. Usually there are very little or no interior or exterior fats, but there may be slight traces or streaks close to the spinal column and around the kidneys. The flesh is coarse, soft, flabby, and inclined to be watery. It has a dull, dark cast inclining to a brownish tinge.

Cull or No. 5.—Cull or No. 5 grade lamb loins are thin, shelly, sunken, and almost entirely devoid of visible fat. The flesh is dark, coarse, soft, and watery. Bones are white but relatively soft. The proportion of bones to flesh is high. Such loins are seldom offered for retail fresh meat trade.

Lamb flanks.—Inasmuch as flanks are seldom sold at wholesale as such but are left attached to the loin they are in reality a part of that wholesale cut. The grade descriptions of loins include also grade description of flanks. Separate descriptions for grades of flanks are therefore not included.

GRADES OF LAMB FORESADDLES

Prime or No. A 1.—Prime or No. A 1 grade lamb foresaddles have thick, full shoulders, and broad, thick, and bulging racks. Breasts are thick and well proportioned. Shanks and necks are relatively small. Bones are small, soft, and tinged with red. The outer covering of fat is smooth and evenly distributed, having the greatest depth over the back and shoulders and extending well over the breasts. There are moderate quantities of fat deposits on the interior walls and along the breast bones. All fats are of excellent quality,



SOME SUBDIVISIONS OF WHOLESALE CUTS OF LAMB

A, breast and shank; B, shank; C, breast; D, shoulder; E, rack; F, loin

firm, but not brittle, and are white or slightly creamy. The flesh is fine grained, smooth or velvety, and light pink in color.

Choice or No. 1.—Choice or No. 1 grade lamb foresaddles differ only slightly in one or more respects from Prime grade lamb foresaddles. The greatest differences are usually in the quantity and distribution of fat. There may be slight deficiencies in conformation. There are usually either greater or less quantities of fat than are found on Prime grade foresaddles. Bones are soft and red. The flesh is firm, fine grained, and light pink in color.

Good or No. 2.—Good or No. 2 grade lamb foresaddles are moderately thick and full through the shoulders and racks. Breasts are relatively thick, and shanks and necks are well proportioned. Bones are soft and red. The outer covering of fat is deficient as compared with Choice grade foresaddles and it is not so evenly distributed. Shoulders and back are fairly well covered. The flesh is moderately fine grained, firm, and smooth. Its color is light pink.

Medium or No. 3.—Medium or No. 3 grade lamb foresaddles lack thickness or fullness of shoulders and racks as compared to Good grade foresaddles. Fat covering is moderately thin and sometimes appears only as spots or streaks on the shoulders and racks. Bones are soft but lack redness to a marked degree. The flesh is inclined to be soft, moderately fine grained, and somewhat darker than that of Good grade foresaddles. Its color varies from light to dark pink.

Common or No. 4.—Common or No. 4 grade lamb foresaddles are the lowest grade found regularly on the markets. They are long and angular. Bones are prominent and thinly covered. Necks are relatively long and thinly fleshed. Bones are soft and somewhat whiter than those of higher-grade cuts. There are usually little or no visible interior or exterior fats, except small patches or streaks on the shoulders. The flesh is inclined to be soft, flabby, or watery, and dark, and appears coarse and fibrous.

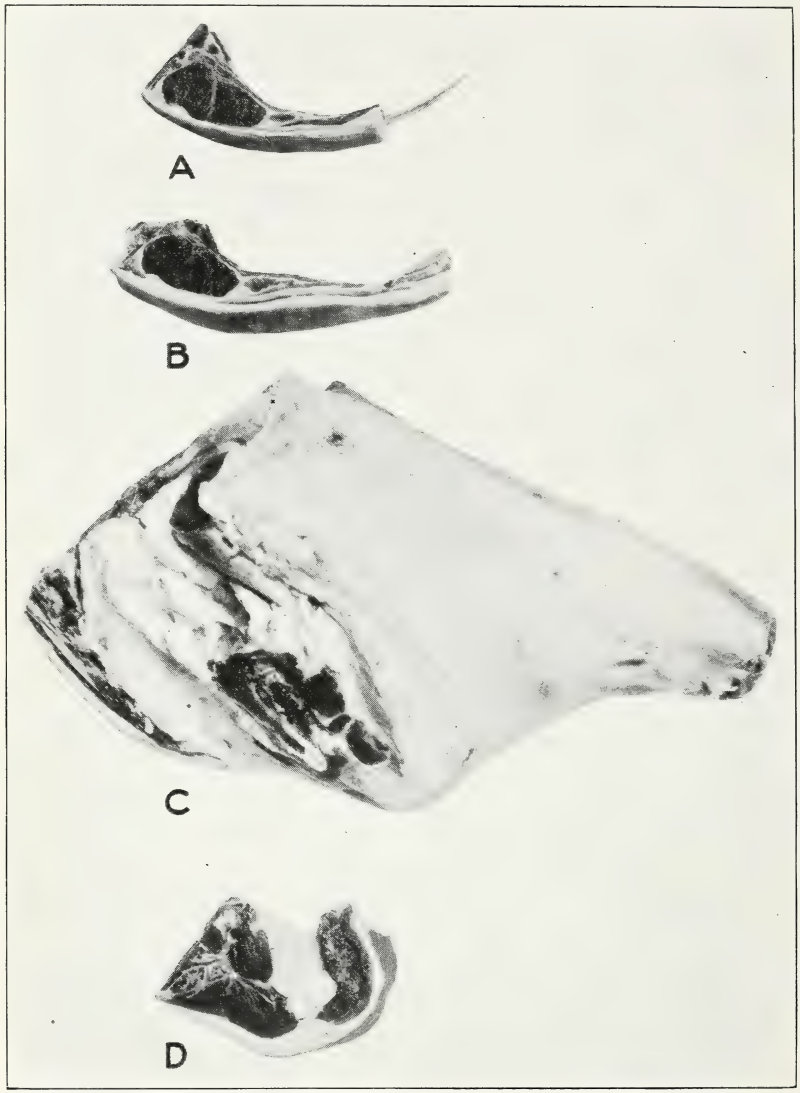
Cull or No. 5.—Foresaddles from Cull grade lamb carcasses are not usually found on the markets, and therefore are not a factor in the fresh-meat trade. Cuts of this grade are very unsightly, extremely thin in all parts, and almost entirely devoid of visible fat. All bones are very prominent and the flesh is dark, coarse, stringy, soft, and watery.

GRADES OF LAMB RACKS

Prime or No. A 1.—Prime or No. A 1 grade lamb racks are broad, thick, full, and bulging. Bones are soft and red. The outer covering of fat is smooth and even over the entire surface, having the greatest depth along the backbone and diminishing gradually toward the tips of the ribs. The flesh is firm, fine grained, smooth or velvety, and has light pink color.

Choice or No. 1.—Choice or No. 1 grade lamb racks resemble Prime grade lamb racks closely in most respects. They are usually slightly deficient in depth of flesh. They may have slightly uneven distribution and greater or less quantities of fat. Although fat covering is fairly uniform it may be slightly rough or uneven as compared to that on Prime grade racks. Bones are soft and red. The flesh is firm, fine grained, smooth, and has light pink color.

Good or No. 2.—Good or No. 2 grade lamb racks are moderately thick and full but not bulging. The covering of fat has fairly good depth along the backbone but diminishes toward the tips of the ribs.



SUBDIVISIONS OF WHOLESALE CUTS OF LAMB

A, French rib lamb chop; B, regular rib lamb chop; C, leg of lamb; D, loin lamb chop

It may also be somewhat excessive or wasty compared to that on Choice grade racks. Bones are soft and red. The flesh is moderately firm, fine grained, smooth, and light pink in color.

Medium or No. 3.—Medium or No. 3 grade lamb racks lack fullness or plumpness to a marked extent. Bones are soft but may lack the redness of those in better-finished carcasses. The fat covering is moderately thin. The flesh is inclined to be soft, moderately fine grained, and light to dark pink in color.

Common or No. 4.—Common or No. 4 grade lamb racks are the lowest grade offered generally on the retail markets. They are thin and shelly. Bones are prominent and lack redness. There are usually little or no visible exterior or interior fats. The flesh is dark, soft or flabby, and watery.

Cull or No. 5.—Racks of this grade are unsuitable for retail fresh-meat trade and are rarely offered. They are almost entirely devoid of visible fat. The flesh is extremely dark, coarse, and watery.

GRADES OF LAMB CHUCKS

Prime or No. A 1.—Prime or No. A 1 grade lamb chucks are thick and full through the shoulders. Necks are short and plump. The fat covering is smooth and even and extends well over the outer surface. Bones are small, soft, and red. The flesh is firm, fine grained or velvety, and light pink in color.

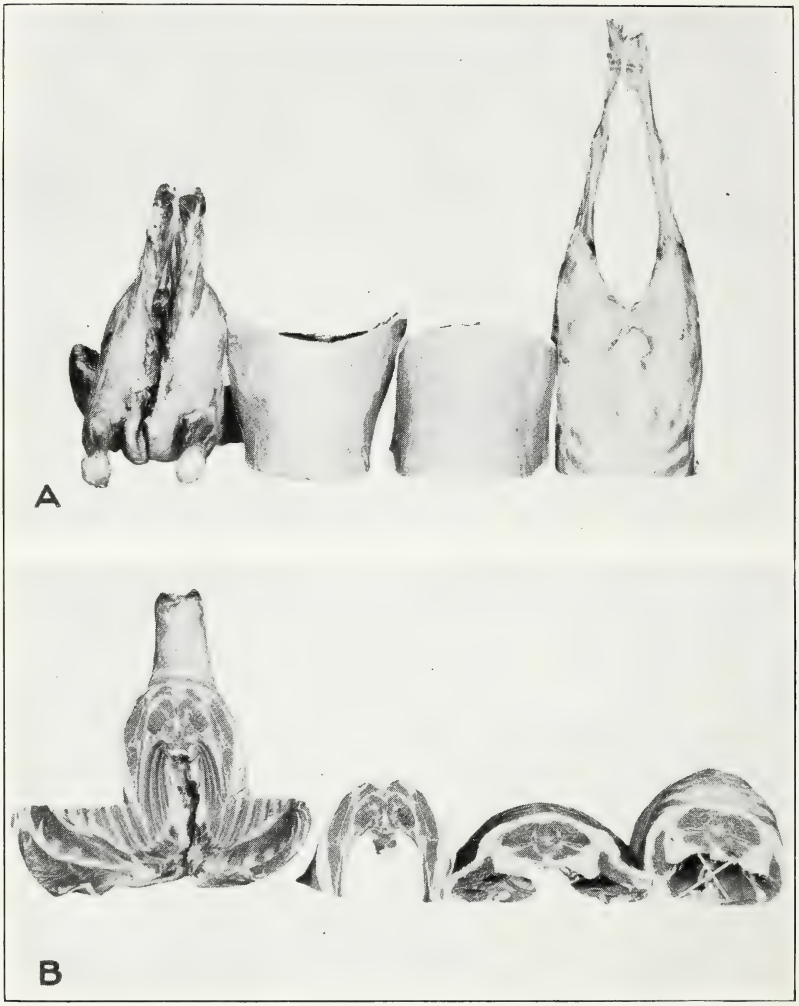
Choice or No. 1.—Choice or No. 1 grade lamb chucks differ only slightly from Prime grade lamb chucks. They may be slightly deficient in conformation, but the usual difference is in the quantity and distribution of fats. In all other respects chucks of the two grades are practically the same. Bones are soft and red. The flesh is firm, fine grained, smooth, and light pink in color.

Good or No. 2.—Good or No. 2 grade lamb chucks are moderately thick and full through the shoulders and have small, fairly short plump necks. The fat covering is fairly smooth and evenly distributed, but deficient in this respect as compared to Choice grade lamb chucks. Bones are soft and red. The flesh is moderately fine grained, firm, and smooth. Its color is light pink.

Medium or No. 3.—Medium or No. 3 grade lamb chucks lack fullness or plumpness and are somewhat narrow through the shoulders. Bones are relatively prominent and necks are inclined to be long and thin. Fat covering is moderately thin and sometimes appears only in spots on the shoulders. Bones are soft, but lack some of the redness found in chucks of the better grades. The flesh is inclined to be soft, moderately fine grained, and somewhat darker than that of Good grade chucks. Its color varies from light to dark pink.

Common or No. 4.—Common or No. 4 grade lamb chucks are the lowest grade offered regularly on the fresh-meat markets. They are thin and narrow through the shoulders. Necks are long and thinly fleshed. Common grade chucks have little or no visible fat covering and practically no interior fats. Bones are prominent and lack redness. The flesh is coarse, soft, watery, and dark.

Cull or No. 5.—Cull or No. 5 grade lamb chucks are rarely offered as such to the fresh-meat trade. Proportions of bone to flesh is unusually high. Visible fats are almost entirely lacking. The flesh is dark, coarse, and watery. Cuts of this grade are generally boned and used in manufactured meat products.



SUBDIVISIONS OF WHOLESALE CUTS OF LAMB

A, exterior view; B, cross section

GRADES OF LAMB BREASTS AND SHANKS

Prime or No. A1.—Prime or No. A1 grade lamb breasts are thick and fat and shanks are thick, full, and plump. The outer covering of fat is smooth and even and covers all the fleshy parts. Breasts of this grade have a high proportion of fat to lean and there is a thin covering of fat over the inside of the ribs. Bones are small, soft, and red. The flesh is firm, fine grained or velvety, and light pink in color.

Choice or No. 1.—Choice or No. 1 grade lamb breasts resemble prime grade lamb breasts rather closely in most respects. They are usually slightly deficient in finish, and lack some of the smoothness and evenness of fat distribution characteristic of Prime grade breasts and chucks, but not to a marked extent. Bones are soft and red. The flesh is fine grained and light pink in color.

Good or No. 2.—Good or No. 2 grade lamb breasts are moderately thick but have only a relatively thin covering of fat, which is fairly smooth and even, but deficient in these respects as compared with those of Choice grade. Bones are soft and red. The flesh is moderately fine grained, firm, and light pink in color.

Medium or No. 3.—Medium or No. 3 grade lamb breasts are thinly fleshed. Shanks are long and tapering. Breasts have small quantities of fat distributed through the lean. Bones are soft but lack redness. The flesh is inclined to be soft or spongy, slightly coarse grained, and dark pink.

Common or No. 4.—Common or No. 4 grade lamb breasts are thinly fleshed in all parts and are usually almost devoid of visible fat. The bones, although soft, show little or no redness. The flesh is coarse, soft, flabby, watery, and dark.

Cull or No. 5.—Cull or No. 5 grade lamb breasts are rarely offered for fresh-meat trade. The proportion of bone to flesh is high. Flesh is coarse, soft, stringy, flabby, and watery, and very dark.

GRADES OF WHOLESALE MUTTON CUTS

GRADES OF MUTTON HINDSADDLES

Prime or No. A1.—Prime or No. A1 grade mutton hindsaddles are very thick, broad, and compact. They have short, thick, full, plump legs, broad, well-fleshed loins, and thick, full flanks. There is a fairly deep, very smooth, and even covering of fat over the loins and rumps, diminishing gradually toward the shanks, but it is not excessive at any point. Interior fats are plentiful in the crotch, and the kidneys are well and evenly covered. All fats are of excellent quality, creamy white, and brittle. The flesh is firm, fine grained, and light red in color.

Choice or No. 1.—Choice or No. 1 grade mutton hindsaddles have short legs, thick, full, and plump loins, and relatively short shanks. Flanks are thick and well proportioned. There is a thick outer covering of firm, white, or slightly yellowish fat over loins and thicker parts of legs, which diminishes gradually toward the shanks and flanks. Interior fats are plentiful and kidneys are well covered. Bones are white and hard. The flesh is firm, moderately fine grained, and has light red color.

Good or No. 2.—Good or No. 2 grade mutton hindsaddles resemble Choice grade mutton saddles in most respects. They may be slightly deficient in conformation, or lack the evenness of fat covering

which is a requisite for Choice grade saddles. Good grade saddles are usually fairly thick and full through the rumps and loins; the legs are slightly more tapering than those of Choice grade. The outer covering of fat may be slightly rougher or it may not be so evenly distributed. Interior fats are plentiful around the kidneys and in the crotch, and may be slightly deficient or excessive as compared to Choice grade. The bones are hard and white. The flesh is firm, slightly coarse grained, and light to medium red in color.

Medium or No. 3.—Medium or No. 3 grade mutton hindsaddles have relatively long and tapering legs. Loins have moderate depth of flesh but are inclined to be somewhat flat or slightly sunken. There are moderate quantities of interior fats and the kidneys usually are only partly covered. There is generally a thin outer covering of fat over the thicker parts of loins and rumps, but little elsewhere. Bones are hard and white. The flesh is moderately firm but somewhat coarse grained, and medium to dark red in color.

Common or No. 4.—Common or No. 4 grade mutton hindsaddles are the lowest grade offered generally for fresh-meat consumption. Legs are long, thin, and sharply tapering. Loins are thin, flat, and sunken and flanks are very thin. There are usually little or no interior fats except for slight traces around the kidneys and only small spots or streaks of exterior fats on the rumps and loins. Bones are hard and white. The flesh is coarse grained, soft, flabby, watery, and dark red in color.

Cull or No. 5.—Cull or No. 5 grade mutton hindsaddles are not offered generally for fresh-meat consumption. They are principally from old, emaciated ewes, and the percentage of bone to meat is high. Because of this the flesh has the appearance of hanging to, rather than surrounding, the bones. Bones are white, hard, and flinty. The flesh is coarse, soft, flabby, and very dark.

GRADES OF MUTTON LEGS

Prime or No. A1.—Prime or No. A1 grade mutton legs are very thick, short, and plump. The rumps and thicker parts of the legs are smoothly and evenly covered with firm white or slightly yellowish fat which extends well down to the shanks. The flesh is fine grained, firm, and light to medium red in color. Bones are relatively hard and white.

Choice or No. 1.—Choice or No. 1 grade mutton legs are relatively short, thick, full, and bulging. The rumps and thicker parts of the legs are well and evenly covered with firm white or slightly yellowish fat which gradually diminishes toward the shanks. Bones are white and hard. The flesh is moderately fine grained, firm, and light red in color.

Good or No. 2.—Good or No. 2 grade mutton legs resemble Choice grade mutton legs in most respects. They are usually slightly deficient in conformation and lack some of the evenness of exterior fat covering found on Choice legs. Bones are white and hard. The flesh is firm, slightly coarse grained, and light to medium red in color.

Medium or No. 3.—Medium or No. 3 grade mutton legs are relatively long and tapering and lack the fullness or depth of flesh of the better grades. There is usually a thin outer covering of fat over the thicker parts of legs, which diminishes sharply toward the shanks.

Bones are hard and white. The flesh is somewhat coarse grained, moderately firm, and medium to dark red in color.

Common or No. 4.—Common or No. 4 grade mutton legs are the lowest grade usually found on the fresh-meat markets. They are relatively long, thin, and tapering. Bones are hard, white, and flinty. There are practically no interior fats and the outer covering of fat is scant. Usually small spots or streaks are found on the rumps but practically none elsewhere. The flesh is inclined to be coarse, soft, and watery, and generally dark red in color.

Cull or No. 5.—Cull or No. 5 grade mutton legs are not generally offered for fresh-meat consumption. They are long, thin, and dished or sunken. Bones are white, hard, and flinty. The flesh is very dark, coarse, soft, and flabby.

GRADES OF MUTTON LOINS

Prime or No. A1.—Prime or No. A1 mutton loins are very thick, full, and bulging. Flanks are thick and full. Kidneys are smoothly and evenly covered with fat of excellent quality and of moderate depth. The outer covering of fat is smooth and even over all parts, and of moderate depth. Bones are white and moderately hard. The flesh is fine grained, firm, and light red in color.

Choice or No. 1.—Choice or No. 1 grade mutton loins are thick, full, and bulging. Flanks are thick and full. Kidneys are well and evenly covered with fat of good quality. The outer covering of fat is smooth and evenly distributed over the thicker parts. Bones are hard and white. The flesh is moderately fine grained, firm, and light red in color.

Good or No. 2.—Good or No. 2 grade mutton loins resemble Choice grade mutton loins in most respects. They are generally slightly deficient in depth of flesh but not to a marked degree. Interior fats are plentiful but may be deficient or excessive as compared to Choice loins. The outer covering of fat is fairly smooth but not so evenly distributed. Bones are hard and white. The flesh is firm, slightly coarse grained, and light to medium red in color.

Medium or No. 3.—Medium or No. 3 grade mutton loins lack fullness or plumpness as compared with those of better grades. Interior fats are scant, but small quantities are usually found around the kidneys. Exterior fats range from moderate to deficient. There is usually a thin covering on either side of the backbone but scarcely any on the flanks. Bones are white and hard. The flesh is somewhat coarse, moderately firm, and medium to dark red in color.

Common or No. 4.—Common or No. 4 grade mutton loins are the lowest grade generally offered for fresh-meat consumption. They are thin, flat, or sunken. Bones are prominent, white, hard, and flinty. Both interior and exterior visible fats are generally scant. There may be small spots or streaks along the spine. The flesh is coarse and inclined to be soft, flabby, and dark red in color.

Cull or No. 5.—Cull or No. 5 grade mutton loins are not offered generally for fresh-meat consumption and are therefore not an important commercial product. They are exceptionally thin in all parts. Both interior and exterior visible fats are almost totally lacking. Bones are very prominent, hard, white, and flinty. The flesh is very dark, coarse, soft, and watery.

GRADES OF MUTTON FORESADDLES

Prime or No. A1.—Prime or No. A1 grade mutton foresaddles closely approach the ideal for the group in conformation, finish and quality. They are very thickly fleshed, full, and compact. Shoulders and racks are very thick, broad, and well proportioned and have excellent depth of flesh. Breasts are thick and plump. The outer covering of fat is thick and smooth but not excessive over the shoulders and breasts. Interior walls of the breasts have a moderately thin fat covering. All fats are creamy in color. The flesh is firm, moderately fine grained and has light red color. Bones are white and hard.

Choice or No. 1.—Choice or No. 1 grade mutton foresaddles are thick, full, and compact. Shoulders and racks are thick, broad, well-proportioned, and have good depth of flesh. Breasts are thick and well mixed with fat. The outer covering of fat is moderately thick and smooth. Its color is creamy to slightly yellowish. Bones are white and hard. The flesh is firm, moderately fine grained, and has light red color.

Good or No. 2.—Good or No. 2 grade mutton foresaddles resemble Choice grade mutton foresaddles closely in most respects. They may be slightly deficient in conformation or may lack the evenness of fat covering or the fat may be slightly excessive. In thickness and plumpness they differ only slightly from Choice mutton foresaddles. The fat is firm, of good quality, and creamy to slightly yellowish. Bones are hard and white. Flesh is firm, slightly coarse grained, and has light to medium red color.

Medium or No. 3.—Medium or No. 3 grade mutton foresaddles are relatively thin through the shoulders and the backbone is prominent. Outer covering of fat is somewhat scant, but usually is more in evidence than that on Medium grade yearling and lamb foresaddles. It generally is present in uneven spots on shoulders and the thicker parts of the ribs. Bones are hard, white, and flinty. The flesh is somewhat coarse grained, slightly soft, and medium to dark red in color.

Common or No. 4.—Common or No. 4 grade mutton foresaddles are the lowest grade usually found on the fresh-meat markets. They lack fullness to a marked degree and are thinly fleshed in all parts. Most bones are prominent and backs are sharp or peaked. There is very little or no fat covering and very little interior fat. The flesh is coarse grained, soft, flabby, and dark red. Bones are hard, white, and flinty.

Cull or No. 5.—Cull or No. 5 grade mutton foresaddles are so thinly fleshed as to be undesirable for sale as fresh meats. Foresaddles of this grade are usually boned and the flesh used for canning, and in the preparation of other prepared-meat products. Cuts of this grade have practically no visible exterior or interior fats. The flesh is soft, coarse grained, and dark red in color. Bones are white, hard, and flinty.

GRADES OF MUTTON RACKS

Prime or No. A1.—Prime or No. A1 grade mutton racks are very thick and full with a deep flesh covering. The proportion of flesh to bone is very high. The flesh is firm and moderately fine grained. Its color is light red. All fats are brittle and of excellent quality.

The outer covering of fat is smooth and of uniform thickness over the back and sides. The interior of the ribs is covered with a thin layer of fairly smooth fat. Bones are hard and white.

Choice or No. 1.—Choice or No. 1 grade mutton racks are thick and full and have good depth of flesh in all parts. Proportion of flesh to bone is high. All fats are brittle and of good quality. Outer covering of fat is smooth, of uniform thickness, and diminishes slightly toward the lower ends of the ribs. Interior fats are somewhat in evidence. Flesh is firm and moderately fine grained. Its color is light red. Bones are hard and white.

Good or No. 2.—Good or No. 2 grade mutton racks resemble Choice grade mutton racks rather closely in most respects. Generally they lack the thickness and fullness of those of the Choice grade or the fat covering may be thicker or slightly rougher. All fats are of good quality, white or slightly creamy, and brittle. The flesh is firm, slightly coarse grained, and light to medium red in color. Bones are hard and white.

Medium or No. 3.—Medium or No. 3 grade mutton racks are moderately thick, but lack the fullness of the better grades. The outer covering of fat is somewhat uneven. Its greatest depth is along the spinal column, diminishing sharply toward the lower ends of the ribs. Flesh is moderately firm but somewhat coarse grained, and medium to dark red in color. Bones are white and hard.

Common or No. 4.—Common or No. 4 grade mutton racks are the lowest grade offered regularly for fresh-meat trade. They are thin in all parts. Both exterior and interior visible fats are scant or may be almost entirely lacking. The flesh is coarse, soft, dark, and watery. Bones are prominent, hard, white, and flinty.

Cull or No. 5.—Cull or No. 5 grade mutton racks are rarely offered for consumption as fresh meat. They are unattractive, extremely thin, and almost totally lacking in visible fat. The proportion of bone to meat is very high. Flesh is coarse, soft, flabby, and watery. Its color is very dark red. Bones are very prominent, hard, and white.

GRADES OF MUTTON CHUCKS

Prime or No. A1.—Prime or No. A1 grade mutton chucks are very thick, full and deeply fleshed. The proportion of flesh to bone is very high. Necks are relatively small, short, and plump. The outer covering of fat is smooth and evenly distributed. The flesh is firm, very fine grained for the class, and has a light red color. Bones are relatively hard and white.

Choice or No. 1.—Choice or No. 1 grade mutton chucks are thick and full and have excellent depth of flesh. Proportion of meat to bone is high. Necks are small, short, and shapely. The outer covering of fat is smooth and evenly distributed over the shoulders. The flesh is firm, fine grained, and has a light red color. Bones are white and hard.

Good or No. 2.—Good or No. 2 grade mutton chucks resemble Choice grade mutton chucks in most respects. They lack some of the fullness or depth of flesh of Choice grade chucks. The outer covering of fat is usually not so evenly distributed or it may be slightly excessive. All fats are white or slightly creamy, brittle, and of good

quality. The flesh is firm, slightly coarse grained, and light to medium red in color. Bones are white and hard.

Medium or No. 3.—Medium or No. 3 grade mutton chucks lack fullness through the shoulders and bones are slightly prominent. The outer covering of fat is uneven and often appears only in spots or patches. Fat is white but less brittle than fat on good grade mutton. The flesh is moderately firm but coarse grained, and medium to dark red in color. Bones are white and hard.

Common or No. 4.—Common or No. 4 grade mutton chucks are thin in all parts and bones are prominent. Shoulders are thin and narrow. There is little or no fat covering. The flesh is soft and flabby, coarse grained, and watery. Its color is dark red. Bones are hard and white.

Cull or No. 5.—Cull or No. 5 grade mutton chucks are rarely offered for fresh-meat consumption. Chucks of this grade are exceedingly thin in all parts and the proportion of bone to meat is very high. Visible fats are almost totally lacking. The flesh is coarse, soft, flabby, and has dark red to light brown color. Bones are hard and white.

GRADES OF MUTTON BREASTS AND SHANKS

Prime or No. A 1.—Prime or No. A 1 grade mutton breasts are very thick and full. They have a liberal proportion of lean flesh, interspersed with generous layers of fat of excellent quality. Exterior and interior fats are plentiful and outer fats are smooth and even, extending well down on the shanks. The flesh is firm, moderately fine grained, and light red in color. Bones are white and hard.

Choice or No. 1.—Choice or No. 1 grade mutton breasts are thick and full. They are interspersed with generous layers of fat of good quality. Exterior and interior fats are plentiful and outer fats are evenly distributed. The flesh is firm, fine grained, and has light red color. Bones are white and hard.

Good or No. 2.—Good or No. 2 grade mutton breasts resemble choice grade mutton breasts in most respects. They are generally not so thickly fleshed and as a rule have a lower percentage of fat interspersed through the lean. They may, however be slightly excessive in this respect as compared to choice grade. Exterior fat is not so evenly distributed. The flesh is slightly coarse grained and has light to medium red color. Bones are white and hard.

Medium or No. 3.—Medium or No. 3 grade mutton breasts are relatively thin. They lack the generous mixture of fat found in the better grades and have only limited quantities of exterior fat. The flesh is moderately firm and somewhat coarse grained. Its color varies from medium to dark red. Bones are hard and white.

Common or No. 4.—Common or No. 4 grade mutton breasts and shanks are the lowest grade offered generally for fresh-meat consumption. They are thin in all parts and usually show very little or no visible exterior or interior fat. The flesh is soft, watery, and flabby and has a very dark red color. Bones are white and hard.

Cull or No. 5.—Cuts of this grade are rarely offered for sale as fresh meat. They are exceedingly thin and the proportion of bone to meat is high. Visible fats are generally totally lacking. Flesh is very soft, flabby, and watery. It has a dark red to light brown color. Bones are white and hard.

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